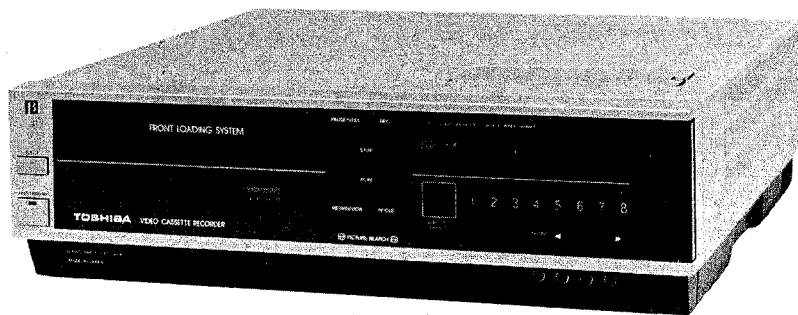


# TOSHIBA

## COLOUR VIDEO CASSETTE RECORDER

# V-33



This model is basically same as model V-31. For further information please refer to service data (File No. 030-066) for model V-31.

### SPECIFICATIONS

|  |  |  |  |
|--|--|--|--|
| <b>General</b><br>Video recording system: Head configuration 2-head rotary<br>Video signal: CCIR standard, PAL colour<br>Storage temperature: -20° to +60°C (-4° to +140°F)<br>Operating temperature: 5° to 40°C (41° to 104°F)<br>Antenna: 75-ohms external aerial terminal for VHF and UHF<br>Channel coverage: VHF channels 2 – 12<br>UHF channels 21 – 69<br>UHF output signal: UHF channels E31 to E39 (Variable)<br>Power requirements: 220V AC50 Hz<br>Power consumption: 33W<br>Weight: 9.7 kg<br>Dimensions: 420×122×390mm (W/H/D)<br>(16.8×4.88×15.6 inches) (W/H/D) |  | <b>Audio</b><br>Input: AUDIO LINE IN:<br>Phono-type, 50 k-ohms, — 10 dB<br>Output: AUDIO LINE OUT:<br>Phono-type, less than 10 k ohms, — 5 dB, unbalanced<br>Frequency response: 50 to 8,000 Hz<br>Signal to noise ratio: Better than 40 dB  |  |
|  |  | <b>Tape transport</b><br>Tape speed: 18.73 mm/sec.<br>Maximum recording time: 3 hours 15 min. (with L-750)<br>Fast forward time: Within 4.5 min. (L-500)<br>Rewind time: Within 4.5 min. (L-500)   |  |
| <b>Video</b><br>Input: VIDEO LINE IN:<br>Phono-type connector<br>1.0V (pp),<br>75 ohms unbalanced, sync. negative<br>Output: VIDEO LINE OUT:<br>Phono-type connector<br>1.0V (pp),<br>75-ohms, unbalanced, sync. negative<br>Signal-to-noise ratio: Better than 42 dB  |  | <b>Timer</b><br>LED digital display<br>Count down from AC-line frequency.<br><br>Design and specifications are subject to change without notice.<br><br>Caution: Copyright Act 1956 Users of video recording equipment should note that it may be unlawful to record television broadcasts, cinematograph films or video recording without the permission of the relevant copyright owner. |  |

The V-33 is different from the V-31 in the following points.

1. A wireless remote controller is added to the V-33.
2. The timer of the V-33 is the 8-program 14-day type.
3. The tuner circuit, timer circuit, logic circuit, and wireless remote controller circuit are different from those of the V-31.

4. The video circuit, audio circuit, servo circuit, and power circuit are basically the same as those of the V-31.
5. Operation of the mechanism is the same as that of the V-31.
6. The method of electrical and mechanical adjustment is the same as that of the V-31.

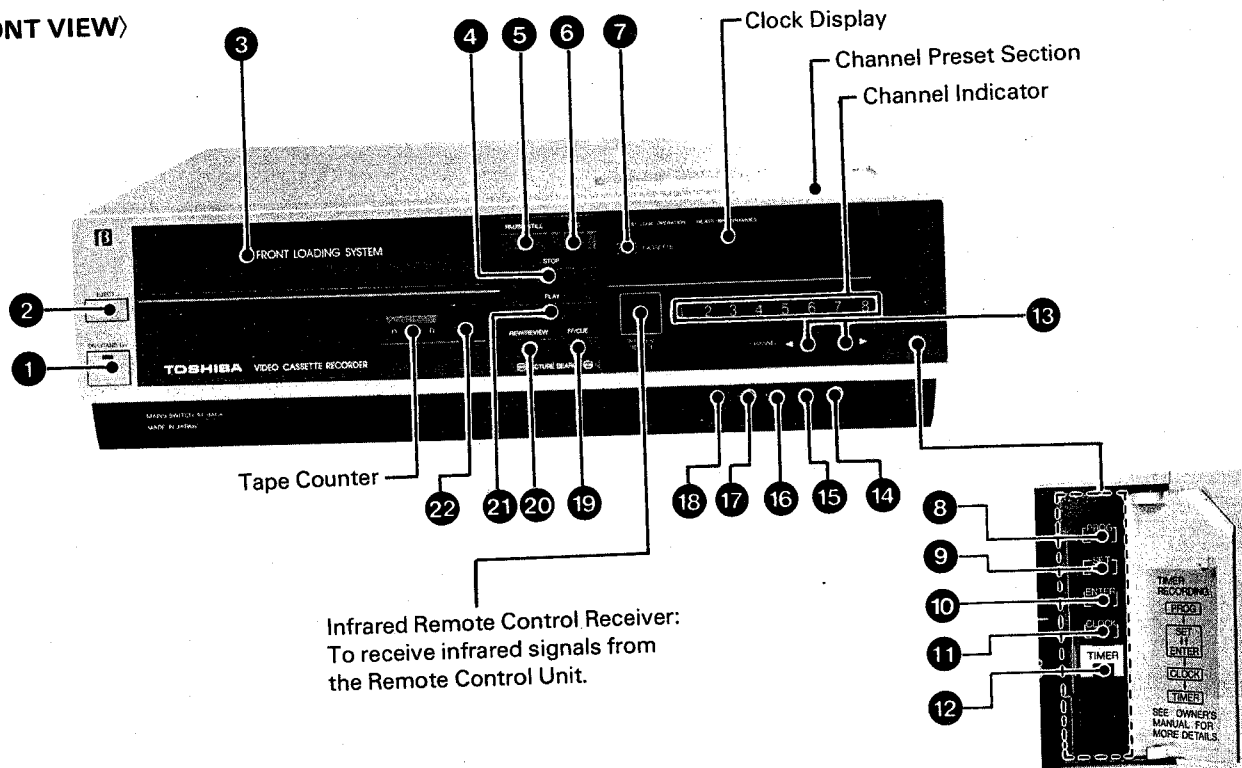
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# SECTION 1. GENERAL

## IDENTIFICATION AND OPERATION OF CONTROLS

(FRONT VIEW)



### 1 ON/STAND BY switch

Turns VTR power on, and off for standby mode. With this switch in the ON mode, the VTR is ready for use and the lamp lights.

The standby mode is used to switch off all functions of the VTR, except for the clock and the interface circuit between the VTR and your television receiver.

### 2 EJECT button

Used to remove the cassette from the cassette compartment.

### 3 Cassette compartment

When the cassette is inserted in this compartment, the cassette will automatically be loaded ready for operation. The CASSETTE indicator lamp lights.

### 4 STOP button

Used to stop the tape under all conditions.

### 5 PAUSE/STILL button

Used to stop a tape temporarily in the recording mode or used to watch a still picture in the playback mode. (This button is released automatically after 7 minutes. And the VTR returns to recording from pause or returns to playback from still.)

### 6 REC button

Push this button to record. If the safety tab has been removed from the cassette, it will not be possible to record, thereby preventing your recordings being accidentally erased.

### 7 CASSETTE indicator lamp

When the cassette is correctly set in the VTR ready for operation, this CASSETTE indicator lamp will light. In the timer mode, this CASSETTE indicator lamp turns OFF, if a cassette is set in the VTR.

### 8 PROG button

Used to set the programme.

### 9 SET button

Used to set the clock and timer display section of the readout which is flashing.

### 10 ENTER button

Fixes and stores the information fed by the SET button.

### 11 CLOCK button

Used to set to the current time.

### 12 TIMER button

Push for timed recording after programming VTR for unattended recording.

### 13 CHANNEL select button

Used to select the channels you wish to view or record.

### 14 VIDEO OUT jack

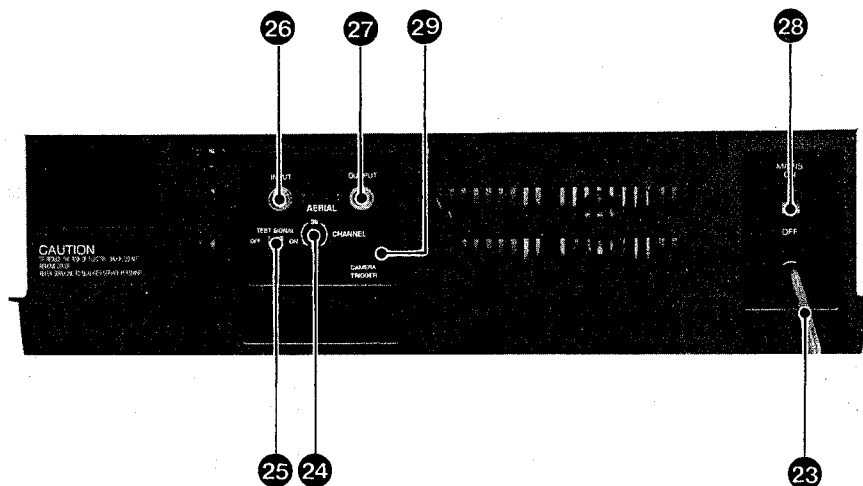
Provides a video signal from the VTR for use by other equipment.

### 15 VIDEO IN jack

Used for connecting a video input from other video equipment. Connecting a plug into this jack cuts off the picture from the tuner and records the video signal connected into this VIDEO IN jack.

Disconnecting the plug automatically resumes the picture from the tuner.

〈REAR VIEW〉



- 16 AUDIO OUT jack**  
Provides an audio signal from the VTR for use by other equipment.
- 17 AUDIO IN jack**  
Used for connecting an audio input from other equipment. Connecting a plug into this jack cuts off the audio signal coming from the tuner and records the audio signal connected to this AUDIO IN jack. Disconnecting the plug automatically resumes the audio signal from the tuner.
- 18 TRACKING control**  
Used when playing cassettes recorded on other machines using the Beta system. Adjust this control to minimize black streaks across the TV picture during playback. Set the control in its center position when recording and during subsequent playback of cassettes recorded on the VTR.
- 19 FF/CUE button**  
The FF/CUE button serves a dual purpose. Push for fast forward of the tape. When this button is pushed during the playback mode, the picture moves quickly forward (about 8 times the normal speed) and you can search for the desired part of the programme.
- 20 REW/REVIEW button**  
The REW/REVIEW button serves a dual purpose. Push for rewinding of the tape. When this button is pushed during the playback mode, the picture moves quickly backward (about 8 times the normal speed) and you can search for the desired part of the programme.
- 21 PLAY button**  
Push for playback of a recorded tape.
- 22 Counter reset button**  
Used to set the tape counter to the "0000" position.
- 23 Power cord**  
Connect this cord into the AC outlet (AC 220V).
- 24 VTR UHF OUTPUT**  
The output from the VTR to your television receiver can be adjusted to any channel from 31 to 39 by using the screwdriver adjustment, as described in "SET YOUR TELEVISION TO THE VTR CHANNEL".
- 25 TEST SIGNAL switch**  
Provides a test signal to assist you to tune your receiver to the output of the VTR, as described in "SET YOUR TELEVISION TO THE VTR CHANNEL".
- 26 AERIAL INPUT terminal**  
Connect your television antenna to this terminal.
- 27 AERIAL OUTPUT terminal**  
Connect this terminal to your television receiver, using the cable provided.
- 28 MAINS switch**  
This switch is located at the rear of the VTR. Switching this ON will supply power to the VTR and the clock.
- 29 CAMERA TRIGGER jack**  
You can start and stop recording by a trigger switch on the camera when you connect the trigger output of the camera to this jack.



## OPERATION

### PREPARATION BEFORE OPERATION

Set the MAINS switch to "ON" before operation as shown below.

## BETRIEB

### VOR DER INBETRIEBNAHME

Vor der Inbetriebnahme den MAINS-Schalter auf ON stellen.

## USO DELL'APPARECCHIO

### PREPARATIVI

Prima di usare l'apparecchio, portare l'interruttore principale (MAINS) in posizione ON (accesso).

### TO INSERT A CASSETTE INTO THE VTR

1. SET THE ON/STAND BY SWITCH TO "ON" BEFORE CASSETTE INSERTION.
2. Insert the cassette into the cassette compartment correctly. The cassette is automatically drawn into the VTR for operation, and compartment door closes automatically.
3. The CASSETTE indicator lamp will light.

#### Notes:

- \* Be sure to turn on the VTR for the installation of the cassette.
- \* Avoid inserting anything into the cassette compartment except the cassette. Otherwise damage may occur to the VTR.
- \* If a cassette is already in the VTR, another cassette cannot be inserted.
- \* If a cassette automatically returns after insertion, take out the cassette and insert it again.

### EINLEGEN EINER KASSETTE IN DEN VIDEOREKORDER

1. VOR EINLEGEN DER KASSETTE DEN ON/STAND BY-SCHALTER AUF ON STELLEN
2. Die Kasette richtig in das Kassettenfach einschieben. Die Kasette wird dann automatisch in den Videorekorder eingezogen, und das Kassettenfach schließt automatisch.
3. Die CASSETTE-Anzeige leuchtet.

#### Hinweise:

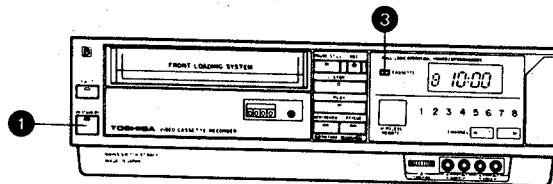
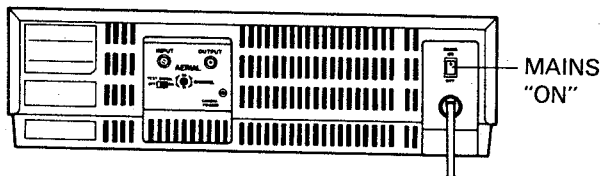
- \* Vor dem Einlegen der Kasette den Videorekorder einschalten.
- \* Keine anderen Gegenstände außer der Kasette in das Kassettenfach einführen, weil der Rekorder sonst beschädigt werden kann.
- \* Wenn bereits eine Kasette im Videorekorder eingelegt ist, kann keine weitere Kasette eingelegt werden.
- \* Wenn eine Kasette nach dem Einlegen automatisch wieder ausgeworfen wird, die Kasette herausnehmen und noch einmal einlegen.

### INSERIMENTO DELLA CASSETTA

1. PRIMA DI INSERIRE LA CASSETTA, PORTARE L'INTERRUTTORE DI ACCENSIONE/ATTESA (ON/STAND BY) IN POSIZIONE ON.
2. Inserire correttamente la cassetta nel vano cassetta. La cassetta viene così automaticamente caricata all'interno dell'apparecchio, e lo sportello del vano si chiude da sé.
3. L'indicatore della cassetta (CASSETTE) si illumina.

#### Note:

- \* Prima di inserire la cassetta, non dimenticare di accendere l'apparecchio.
- \* Non inserire nessun oggetto estraneo nel vano cassetta; ciò potrebbe essere causa di danni.
- \* Se è già inserita una cassetta, non è più possibile inserirne una seconda.
- \* Se la cassetta viene automaticamente espulsa subito dopo l'inserimento, estrarla e ripetere l'operazione.



## RECORDING TV PROGRAMMES

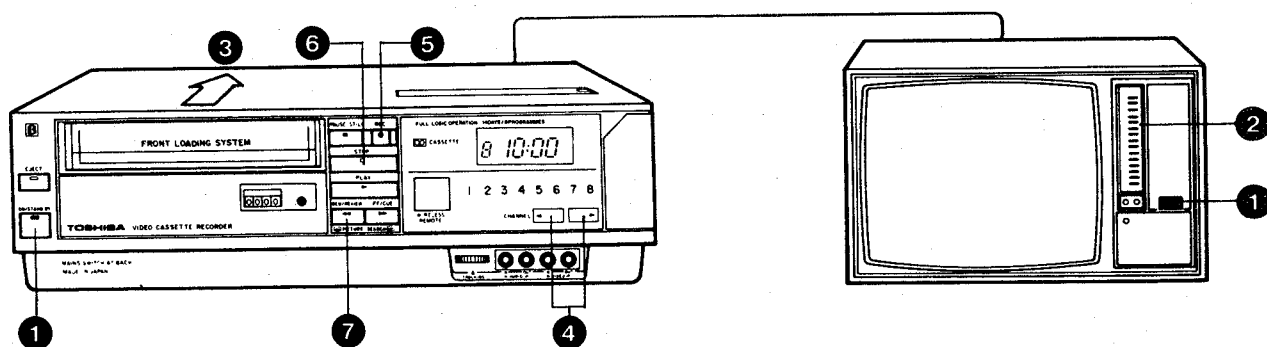
1. Turn ON the ON/STAND BY switch of the VTR and ON/OFF switch of the TV receiver. (Any AUDIO or VIDEO INPUT should be disconnected from the terminals.)
2. Set the TV channel selector to the VTR CHANNEL.
3. Insert the cassette into the compartment.
4. Select the channel which you want to record.
5. Push the REC button of the VTR. The VTR will start recording the programme you see on your TV screen.
6. After recording, push the STOP button.
7. Push the REW/REVIEW button to rewind the tape.

## AUFNAHME VON FERNSEHSENDUNGEN

1. Den ON/STAND BY-Schalter des Videorekorders und den Fernseher einschalten. (Geräte, die an die AUDIO IN- und VIDEO IN-Buchsen angeschlossen sind, sollten abgetrennt werden.)
2. Den Kanalwähler des Fernsehers auf den Videorekorderkanal einstellen.
3. Eine Kassette in das Kassettenfach einlegen.
4. Den Kanal für die Aufnahme wählen.
5. Die REC-Taste des Videorekorders drücken. Dann wird das Programm aufgenommen, das auf dem Fernsehschirm sichtbar ist.
6. Nach der Aufnahme die STOP-Taste drücken.
7. Zum Rückspulen des Bandes die REW/REVIEW-Taste drücken.

## REGISTRAZIONE DI PROGRAMMI TV

1. Accendere il videoregistratore e il televisore. Se qualche cosa è collegato alle prese di ingresso audio o video, scollegarlo.
2. Regolare il selettore del canale del televisore sul canale riservato al videoregistratore.
3. Inserire una cassetta nel vano cassetta.
4. Selezionare il canale dal quale si vuole registrare.
5. Premere il tasto di registrazione (REC) del videoregistratore. Inizia così la registrazione del programma diffuso dal televisore.
6. Alla fine della registrazione, premere il tasto di arresto (STOP).
7. Premere il tasto di riavvolgimento (REW/REVIEW) per riavvolgere il nastro.



## TO PLAY THE RECORDED TAPE

1. First, follow steps 1 to 3 described in "RECORDING TV PROGRAMMES".
2. Push the PLAY button.
3. When the playback is over, push the STOP button.
4. Rewind the tape by pushing the REW/REVIEW button.
5. By pushing EJECT button take out the cassette.

### Note:

When a tape is recorded to an end, the tape is automatically re-wound to the starting position in REC, PLAY and CUE modes, except in timer recording mode.

## WIEDERGABE

1. Zuerst die Schritte 1 bis 3 unter „AUFNAHME VON FERNSEHSENDUNGEN“ ausführen.
2. Die PLAY-Taste drücken.
3. Wenn die Wiedergabe zu Ende ist, die STOP-Taste drücken.
4. Durch Drücken der REW/REVIEW-Taste das Band zurückspulen.
5. Zum Entnehmen der Kassette die EJECT-Taste drücken.

### Hinweis:

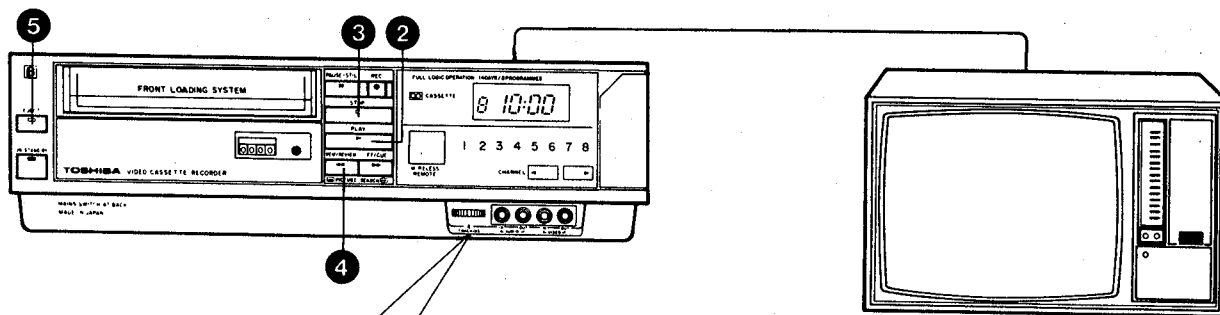
Wenn ein Band bis zum Ende aufgenommen wird, wird es in den Betriebsarten REC, PLAY und CUE automatisch zur Startposition zurückgespult, außer bei der Schaltuhr-Aufnahme.

## RIPRODUZIONE DI NASTRI

1. Eseguire quanto di cui ai punti da 1 a 3 di REGISTRAZIONE DI PROGRAMMI TV.
2. Premere il tasto di riproduzione (PLAY).
3. Alla fine dell'riproduzione, premere il tasto di arresto (STOP).
4. Premere il tasto di riavvolgimento (REW/REVIEW) per riavvolgere il nastro.
5. Premere il tasto di espulsione della cassetta (EJECT) ed estrarre quest'ultima.

### Nota:

Se il nastro è registrato fino alla fine, esso viene automaticamente riavvolto fino all'inizio se è inserita la funzione REC, PLAY o CUE; non però nel caso di registrazione con timer.



When playing pre-recorded or tapes recorded on another machine horizontal streaks of snow might show on the picture. Adjustment of the TRACKING control will help to reduce this effect. Allow a second or two for new settings of this control to take effect. Always return this control to its center position after use. This position is indicated by a definite notch can be felt as the control is turned.

Bei der Wiedergabe von vorbespielten Bändern oder von Bändern, die mit einem anderen Gerät aufgenommen wurden, können auf dem Bild horizontale Streifen („Schnee“) auftreten. Durch Einstellen des TRACKING-Reglers können diese Störungen reduziert werden. Nach einer Einstellung des Reglers ein bis zwei Sekunden warten, bis die Einstellung wirksam wird. Nach der Wiedergabe dieser bestimmten Kassette den Regler immer wieder auf die Mittelstellung zurückdrehen. Diese Stellung ist durch eine Kerbe gekennzeichnet, die beim Drehen des Reglers gefühlt werden kann.

Riproducendo dei nastri preregistrati o registrati con un altro apparecchio, è possibile che sullo schermo appaiano delle righe nere orizzontali o neve. Eliminare quanto più possibile questo effetto facendo girare il comando di tracciamento (TRACKING). L'effetto della regolazione è visibile sullo schermo solo dopo uno o due secondi. Dopo la visione della cassetta particolare, riportare il comando di tracciamento (TRACKING) in posizione centrale. La posizione centrale è segnalata dallo scatto della manopola su una tacca.

### RECORDING ONE PROGRAMME WHILE VIEWING ANOTHER

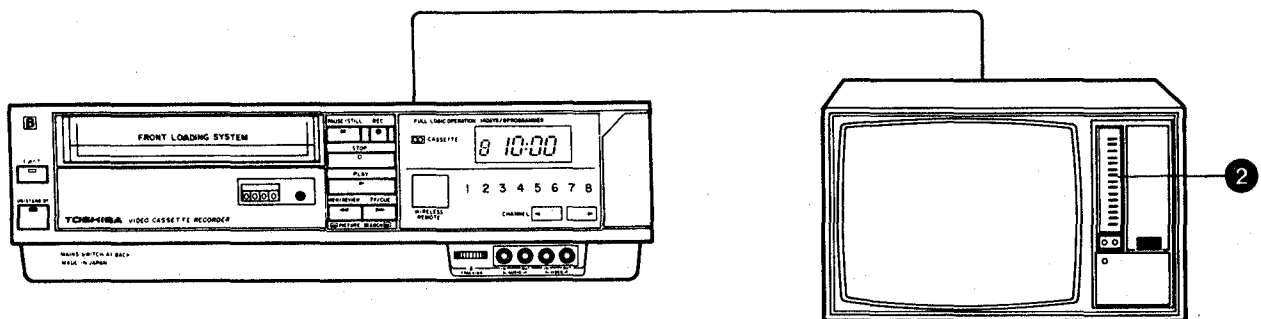
1. Follow steps 1 to 5 as described in "RECORDING TV PROGRAMMES".
2. On your TV receiver, select the channel you wish to view. Recording of the other programme will continue.

### AUFNEHMEN EINES PROGRAMMS UND GLEICHZEITIGES ANSEHEN EINES ANDEREN

1. Die Schritte 1 bis 5 unter "AUFNAHME VON FERNSEHPROGRAMMEN" durchführen.
2. Mit dem Kanalwähler des Fernsehers den Kanal einstellen, den Sie sehen wollen. Die Aufnahme des anderen Programms wird dadurch nicht beeinflusst.

### REGISTRAZIONE DI UN PROGRAMMA DURANTE LA VISIONE DI UN ALTRO

1. Procedere secondo i punti da 1 a 5 di REGISTRAZIONE DI PROGRAMMI TV.
2. Sul televisore, selezionare il canale che si desidera guardare. La registrazione dell'altro programma continua indisturbata.



## EDITING A RECORDING

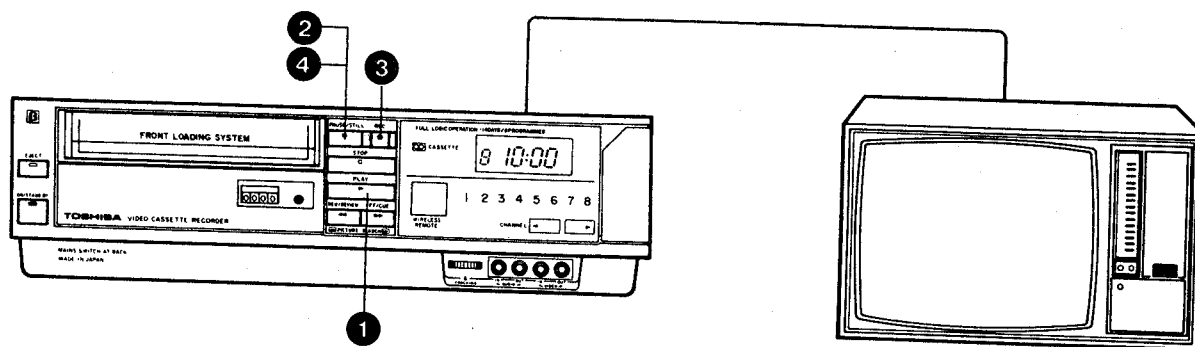
1. Push PLAY button and watch the programme until the exact point is reached where you want the new recording to begin.
2. Push the PAUSE/STILL button. The TV screen will display the still picture.
3. Push the REC button. The programme material to be recorded will appear on the TV.
4. When you want to begin recording, push the PAUSE/STILL button again. The new programme material will directly follow the previously recorded material without interruption.

## VIDEOSCHNITT

1. Die PLAY-Taste drücken und die Stelle suchen, an der die neue Aufnahme beginnen soll.
2. Dann die PAUSE/STILL-Taste drücken. Auf dem Fernsehschirm ist das Standbild.
3. Die REC-Taste drücken. Das Programmmaterial für die Aufnahme erscheint auf dem Fernsehschirm.
4. Zum Starten der Aufnahme die PAUSE/STILL-Taste noch einmal drücken. Die neue Aufnahme wird ohne Unterbrechung direkt an die vorige Aufnahme angehängt.

## MONTAGGIO NASTRO (EDITING)

1. Premere il tasto di riproduzione (PLAY) e guardare il programma fino al punto dal quale si desidera iniziare una nuova registrazione.
2. Nel punto sopradetto, premere il tasto di pausa e immagine ferma (PAUSE/STILL). Sul teleschermo appare l'immagine ferma.
3. Premere il tasto di registrazione (REC). Il programma da registrare appare sul teleschermo.
4. Nel momento in cui si vuole dare il via alla registrazione, premere il tasto di pausa (PAUSE/STILL). Il nuovo materiale viene così registrato immediatamente subito dopo quello precedente, senza interruzione alcuna tra i due programmi.



## VTR TO VTR DUBBING

### USING THE LINE SIGNALS

1. Connect VIDEO OUT/AUDIO OUT of VTR 1 to VIDEO IN/AUDIO IN of VTR 2.
2. Play the tape on VTR 1 and record it on VTR 2.

## ÜBERSPIELEN

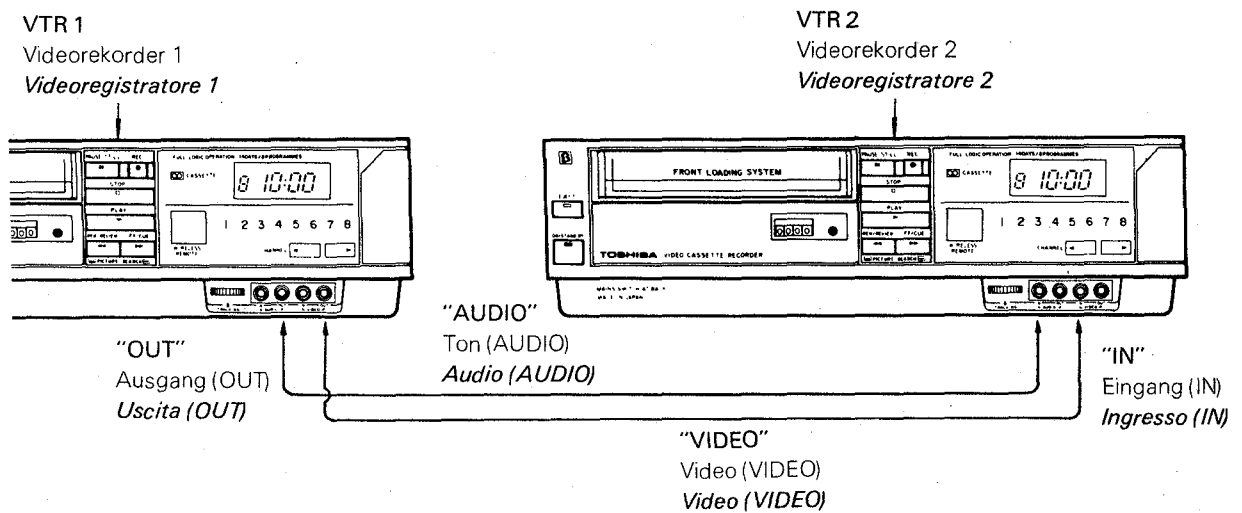
### VERWENDUNG DER VIDEOSIGNALE

1. VIDEO OUT/AUDIO OUT des Videorekorders 1 mit VIDEO IN/ AUDIO IN des Videorekorders 2 verbinden.
2. Die Wiedergabe auf Videorekorder 1 und die Aufnahme auf Videorekorder 2 durchführen.

## COPIAGGIO DA UN VIDEOREGISTRATORE ALL'ALTRO

### CON I SEGNALE DI LINEA

1. Collegare le prese di uscita audio e video (VIDEO OUT/AUDIO OUT) del videoregistratore 1 con quelle (VIDEO IN/AUDIO IN) del videoregistratore 2.
2. Riprodurre il nastro con il videoregistratore 1 e registrare con il videoregistratore 2.



## PICTURE SEARCH

1. Push the PLAY button (In play mode).
2. When the REW/REVIEW or FF/CUE button is pushed the picture moves quickly (about 8 times the normal speed) in reverse or forward direction and you can search for the desired parts of the programme. (Push these buttons again and the VTR will go to the REW or FF mode.)
3. When you want to return to the normal playback mode, press the PLAY button again.

### Notes:

- \* During picture search operation, a few noise bars will appear on the playback picture.
- \* During picture search operation, if the picture flows vertically on the TV screen, adjust the V-HOLD knob on the TV set.
- \* During picture search operation, its speed will be increased until the same as normal FF or REW speed when there is nothing recorded on the tape.
- \* During picture search operation, the sound will be muted.

## BILDSUCHLAUF

1. Die PLAY-Taste drücken (die Wiedergabe einschalten).
2. Wenn die REW/REVIEW- oder die FF/CUE-Taste gedrückt wird, läuft das Bild (mit etwa 8-facher Normalgeschwindigkeit) in Rückwärts- bzw. Vorwärtsrichtung, und jede gewünschte Bandstelle kann leicht gefunden werden. (Durch nochmaliges Drücken der entsprechenden Taste schaltet der Videorekorder auf Rückspulen bzw. Schnellvorlauf.)
3. Zum Zurückschalten auf Wiedergabe die PLAY-Taste noch einmal drücken.

### Hinweise:

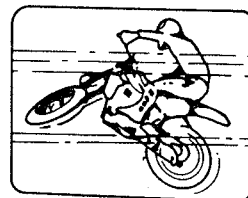
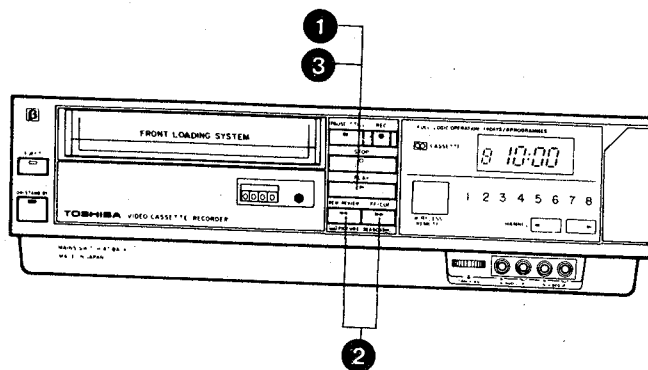
- \* Während des Bildsuchlaufs erscheinen einige Störzeilen auf dem Wiedergabebild.
- \* Wenn das Bild während des Bildsuchlaufs auf dem Fernsehschirm vertikal wandert, den Vertikal-Bildfangregler des Fernsehers einstellen.
- \* Beim Bildsuchlauf wird die Geschwindigkeit auf die normale Schnellvorlauf- bzw. Rückspulgeschwindigkeit erhöht, wenn sich keine Aufnahme auf dem Band befindet.
- \* Beim Bildsuchlauf kann der Ton nicht gehört werden.

## RICERCA IMMAGINE

1. Premere il tasto di riproduzione (PLAY).
2. Premendo il tasto di riavvolgimento (REW/REVIEW) o di avanzamento veloce (FF/CUE), le immagini vengono riprodotte ad alta velocità (circa 8 volte la velocità di riproduzione normale), nella direzione indietro o in avanti, e si può così cercare la parte di programma desiderato. (Premendo questi tasti ancora una volta, il nastro viene semplicemente avanzato o riavvolto velocemente.)
3. Per ritornare alla funzione di riproduzione, premere il tasto di riproduzione (PLAY).

### Note:

- \* Durante la ricerca dell'immagine, la riproduzione è parzialmente disturbata dalle righe del rumore.
- \* Se, durante la ricerca dell'immagine, questa dovesse sfuggire verso l'alto del teleschermo, fissarla per mezzo del comando V-HOLD del televisore.
- \* Durante la ricerca dell'immagine, la velocità aumenta fino alla velocità di avanzamento veloce o riavvolgimento normale, se sul nastro non è registrato niente.
- \* Durante la ricerca dell'immagine, il suono viene escluso.



## STILL PICTURE

1. Push the PLAY button (in play mode).
2. To stop the tape momentarily or to watch the still picture during playback, push the PAUSE/STILL button.
3. Push PAUSE/STILL button again to release still picture and return to normal playback.

### Notes:

- \* The PAUSE/STILL mode will cease automatically after a lapse of approximately 7 minutes. The VTR will return to PLAY mode from STILL.
- \* A few noise bars will appear on the TV screen. Press the PLAY button to move the noise bars to top or bottom on screen.

## STANDBILD

1. Die PLAY-Taste drücken (die Wiedergabe einschalten).
2. Zum Unterbrechen des Bandlaufs oder Ansehen des Standbilds bei der Wiedergabe die PAUSE/STILL-Taste drücken.
3. Druch nochmaliges Drücken der PAUSE/STILL-Taste wird die Wiedergabe fortgesetzt.

### Hinweise:

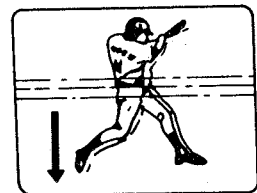
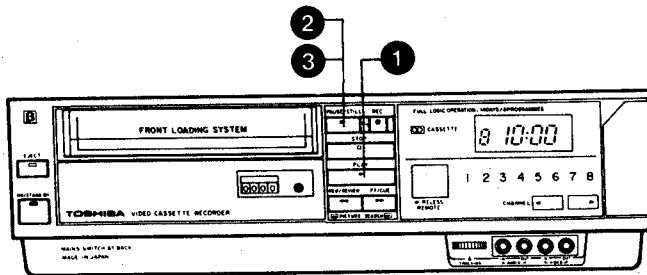
- \* Die PAUSE/STILL-Betriebsart wird automatisch nach etwa 7 Minuten ausgeschaltet. Der Rekorder kehrt vom Standbild auf Wiedergabe zurück.
- \* Einige Störzeilen erscheinen auf dem Fernsehschirm. Die PLAY-Taste drücken, um die Störzeilen zur Ober- oder Unterseite des Schirms zu bewegen.

## IMMAGINE FERMA

1. Premere il tasto di riproduzione (PLAY).
2. Per fermare il nastro provvisoriamente, come pure per guardare un'immagine ferma, premere il tasto di pausa (PAUSE/STILL).
3. Per disattivare l'immagine ferma e ritornare alla riproduzione normale, premere il tasto di pausa (PAUSE/STILL).

### Note:

- \* La funzione di pausa e immagine ferma si disinserisce da sé dopo circa 7 minuti, e viene sostituita dalla funzione di riproduzione.
- \* Sullo schermo appaiono delle righe del rumore. Premere il tasto PLAY per spostarle verso l'alto o il basso.





### FORWARD SLOW

1. Push the PLAY button (in play mode).
2. Push the PAUSE/STILL button (STILL mode).
3. Keep the PLAY button pressed, the picture will move slowly in the forward direction at 1/9 times normal speed.

**Note:**

\* During slow motion, a few noise bars will appear on the playback picture.

### LANGSAMER VORLAUF

1. Die PLAY-Taste drücken (die Wiedergabe einschalten).
2. Die PAUSE/STILL-Taste drücken (Standbild).
3. Die PLAY-Taste gedrückt halten, das Bild läuft dann langsam in Vorwärtsrichtung mit 1/9-facher Normalgeschwindigkeit.

**Hinweis:**

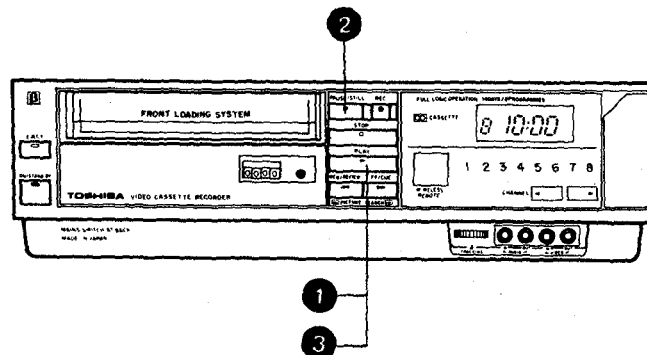
\* Beim langsamen Vorlauf erscheinen einige wenige Störzeilen auf dem Wiedergabebild.

### RALLENTATORE

1. Premere il tasto di riproduzione (PLAY).
2. Premere il tasto di pausa (PAUSE/STILL).
3. Mantener premuto il tasto di riproduzione (PLAY). Le immagini vengono riprodotte al rallentatore nella direzione in avanti, alla velocità di 1/9 quella normale.

**Nota:**

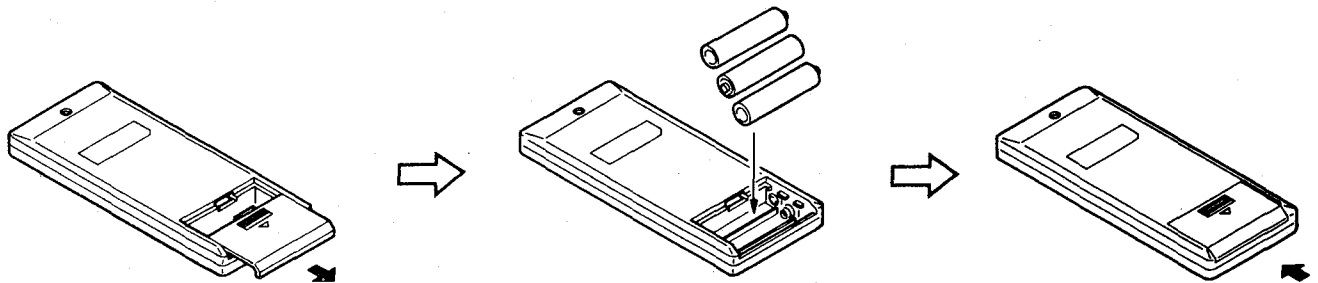
\* Durante la riproduzione al rallentatore, sul teleschermo appaiono alcune righe del rumore.



## REMOTE CONTROL OPERATION

### INSTALLING BATTERIES

How to install batteries in the Remote Control Unit



Remove the battery cover on the reverse side of the unit.

Install 3 batteries ("AAA" size) into the unit.

**Note:** Carefully install batteries to match the polarity diagrams.

Close the battery cover.

### REMOTE CONTROL OPERATION RANGE

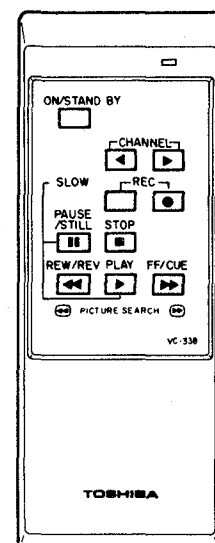
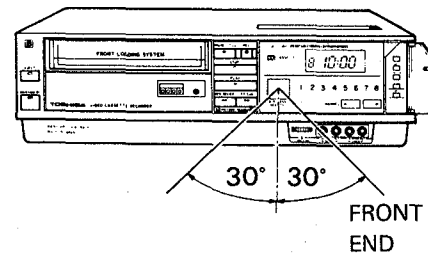
The Remote Control Unit must have "Line of Sight" to the receiver on the front of the VTR. It must be within an angle of 30° either side of center. The maximum operating distance is about 7 meters.

Point the Front End of the Remote Control Unit at the VTR.

\*The Remote Control Unit has same function as VTR.

**Note:** It is not able to move the noise bar in still picture to top or bottom of the screen by the Remote Control Unit.

- Notes:**
1. If the Remote Control Unit is not to be used for a long period of time, remove the batteries to avoid possible damage from battery corrosion.
  2. Avoid mechanical shock to this unit.
  3. Keep this unit away from extremely hot or humid places.



## CHANNEL SETTING

This VTR is equipped with a tuning system which gives you easy channel selection with push buttons. The tuning system consists of CHANNEL select buttons and Tuning thumb wheels, which have been set to UHF channels at the factory.

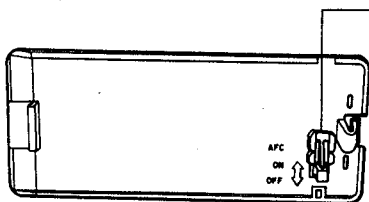
If you want to tune another desired channel, set the VTR described below.

1. Set the TV to the VTR CHANNEL
2. Set the ON/STAND BY switch to "ON".
3. Push the CHANNEL select button to the position which you would like to tune in. (The selected channel will light up.)
4. If you are tuning in channels 2, 3 or 4, set the Channel band switch to the I position. If you are tuning in channels 5, 6, 7, 8, 9, 10, 11 or 12, set the Channel band switch to the III position. If you are tuning in channels from 21 towards 69, set the Channel band switch to the U position. And then turn the Tuning thumb wheel right to left.
5. Rotate the appropriate Tuning thumb wheel in the desired direction until the picture appears on the screen, set for best picture and sound.
6. Repeat steps 3 to 5 for any other channel selector you wish to use.
7. Close the preset tuning compartment door.

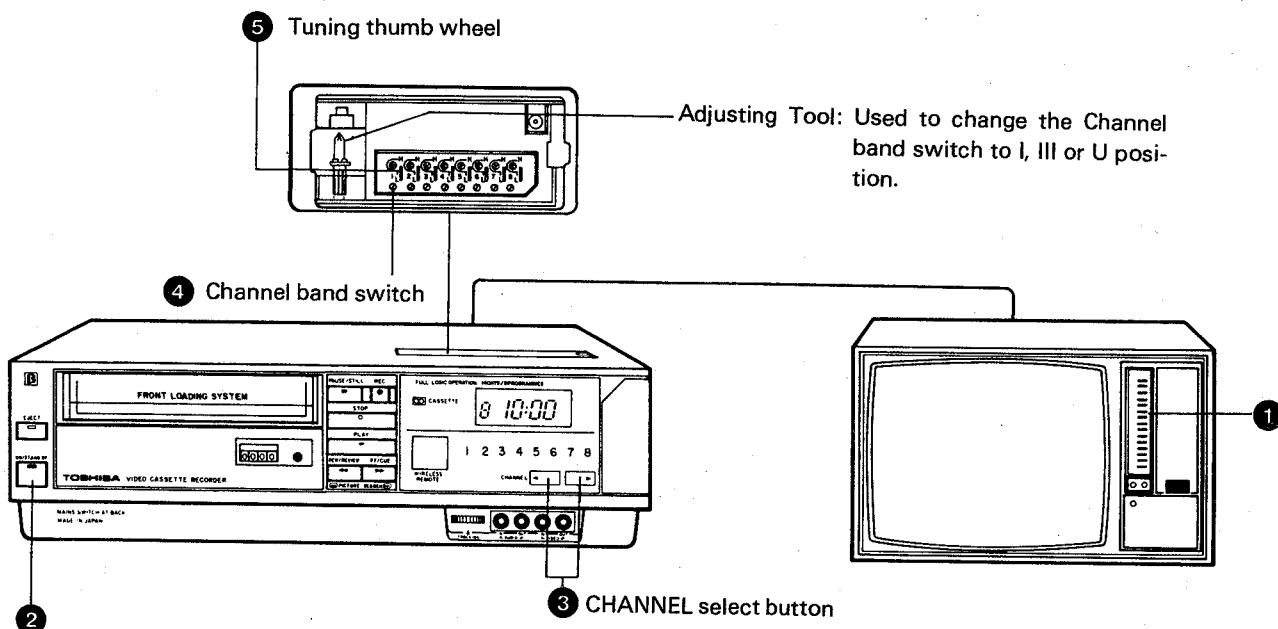
**Note:**

The AFC automatically switch ON when you close the tuning compartment door.

|                       |                    |
|-----------------------|--------------------|
| I : Lower VHF band    | (channels 2 - 4)   |
| III : Higher VHF band | (channels 5 - 12)  |
| U : UHF band          | (channels 21 - 69) |



Confirm that the AFC switch is in the ON position when you close the tuning compartment door. When the tuning compartment door is closed, the AFC switch automatically sets ON mode. If you desire to set the AFC switch OFF, slide the AFC switch OFF position.

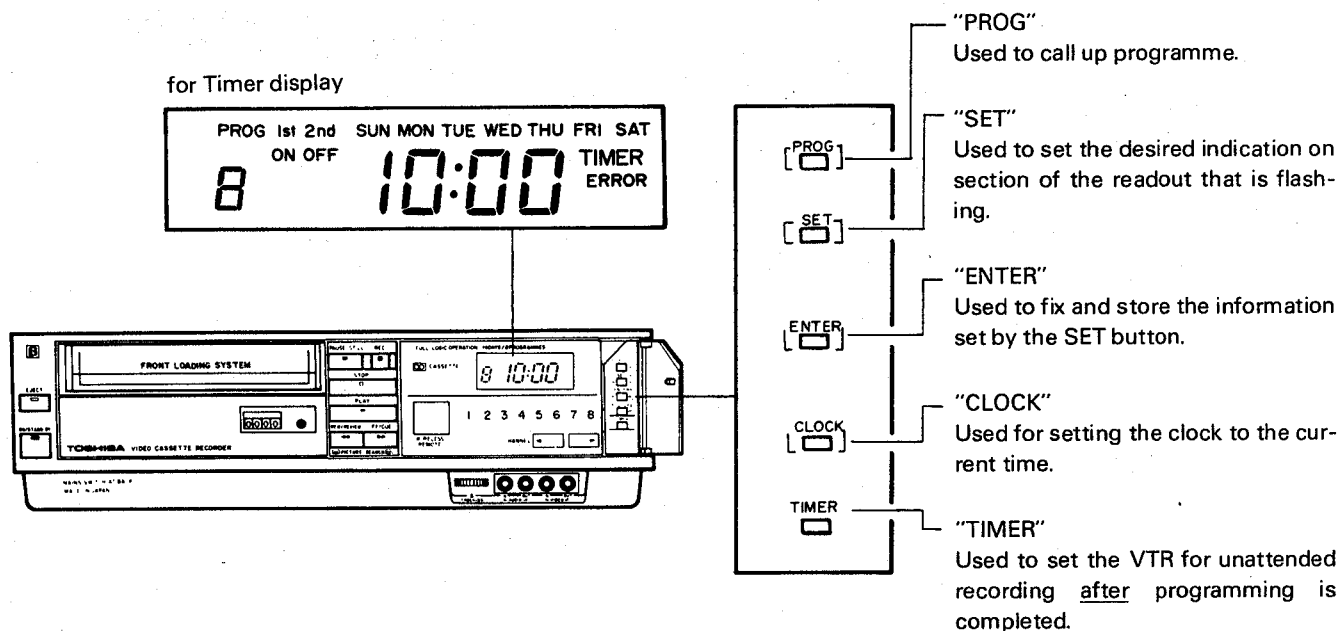


# TIMER

## PROGRAMMABLE TIMER

- \* The clock used is of the 24-hour type.
- \* Using the timer enables you to preset your VTR as long as 14 days in advance to record up to 8 programmes at different times.
- \* The timer also enables you to preset your VTR at the same time everyday and/or at the same day of week every week.

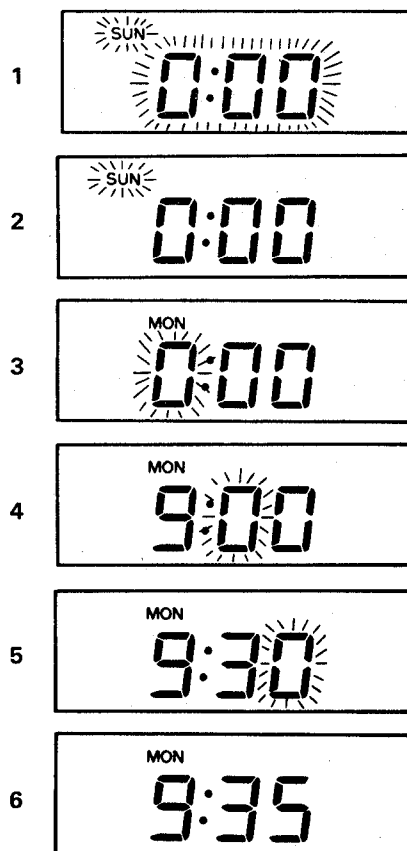
The clock display device is used also for programming, and its total display function is as illustrated below:



## SETTING THE CLOCK

### Example ; Monday 9 : 35

1. When connecting the VTR to the AC power,  
The digital display will start flashing "SUN" "0 : 00".
2. Press the CLOCK button.  
(The "SUN" will flash.)
3. Press the SET button until the day indicator reaches  
correct day. --- "MON"  
Press ENTER button.  
(The hour indicator will now be flashing.)
4. Press the SET button until the hour indicator reaches  
correct figure. --- "9"  
Press ENTER button.  
(The tens minute digit indicator will now be flashing.)
5. Press the SET button until the tens minute digit indicator  
reaches correct figure. --- "3"  
Press ENTER button.  
(The minute digit indicator will now be flashing.)
6. Press the SET button until the minute digit indicator  
reaches correct figure. --- "5"  
Press ENTER button.  
(Press the ENTER button to a correct time signal for the  
zero second setting.)



#### Notes:

1. Always be certain the clock is set to the correct time and day before attempting programming.
2. After 2 ~ 3 seconds of power interruption, if the clock flashes "SUN" "0 : 00", the clock and programming will have to be reset.
3. The clock setting can be made whether the power is turned on or stand by.

## PROGRAMMING WHILE YOU ARE AWAY (TIMER PROGRAMMING)

The programmable timer is capable of storing the memories in the following sequence:

1. Program number (up to 8)
2. 1st, 2nd or both weeks
3. Day of the week
4. Hour digit (for record-starting ON time)
5. Ten minutes digit (for record-starting ON time)
6. The minute digit ( for record-starting ON time)
7. Hour digit (for record-ending OFF time)
8. Ten minutes digit (for record-ending OFF time)
9. The minute digit (for record-ending OFF time)
10. Channel number

And the programme setting is designed for the following fundamental procedures:

- I. To push the SET button to have the desired indication on the flashing readout display.
- II. Then to push the ENTER button to fix and store the input or desired information into the memory.

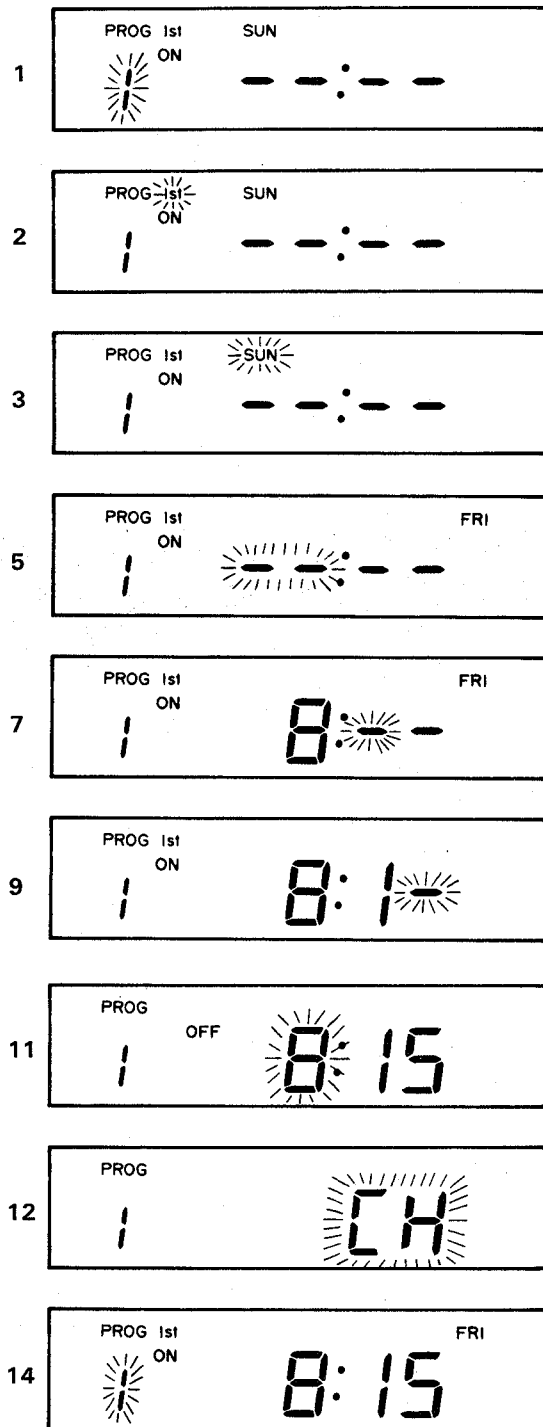
**Example I: Programme No. 1, Channel 6 on Friday this (1st) week from 8 : 15 to 9 : 00**

After turning the VTR "ON" by pressing the ON/STAND BY switch,

1. Press the PROG (programme) button. Then Programme number "1" will be flashing. (For other programme numbers, press the SET button until you reach the desired number.)
2. Press the ENTER button. Then "1st" will be flashing. (For the "2nd" week or both "1st" and "2nd" weeks, press the SET button, until you have the desired indication flashing.)
3. Press the ENTER button. Then "SUN" will be flashing.
4. Press the SET button until the day is "FRI".
5. Press the ENTER button. Then the hour indicator, "--" will be flashing.
6. Press the SET button until the hour reads "8".
7. Press the ENTER button. Then tens minute digit will be flashing.
8. Press the SET button until the tens minute digit reads "1".
9. Press the ENTER button. Then the minute digit "--" will be flashing.
10. Press the SET button until the minute digit reads "5".
11. Press the ENTER button. Then "OFF" display will appear with "8" flashing, being ready for the "OFF" time setting.
12. Set the "OFF" time to "9 : 00" in the same manner as in the above 6 through 11. Then "CH" will now be flashing.
13. Select Channel 6 by pushing the SET button.
14. Press the ENTER button. Then the "PROG 1" will be flashing. The Programme No. 1 has been now set.
15. For programme No. 2 press the SET button again. Then, "2" will be flashing, being ready for next programme.

**Notes:**

1. If you do not wish to set another programme, press the TIMER button.
2. By pressing the TIMER button after completing programmes as in the above Note 1, your VTR is all set for unattended timer recording.
3. When you want to operate VTR after completion of timing operations, set the ON/STAND BY switch of the VTR to ON. After operating, be sure to push the TIMER button.



**Example II: Programme No. 2, Channel 4 on Wednesday next (2nd) week from 6 : 00 to 6 : 30**

1. Follow the same steps 1 and 2 as in the above EXAMPLE I.
2. Press the SET button until "2nd" flashes.
3. Follow the same steps 3 through 14 as in the above EXAMPLE I.

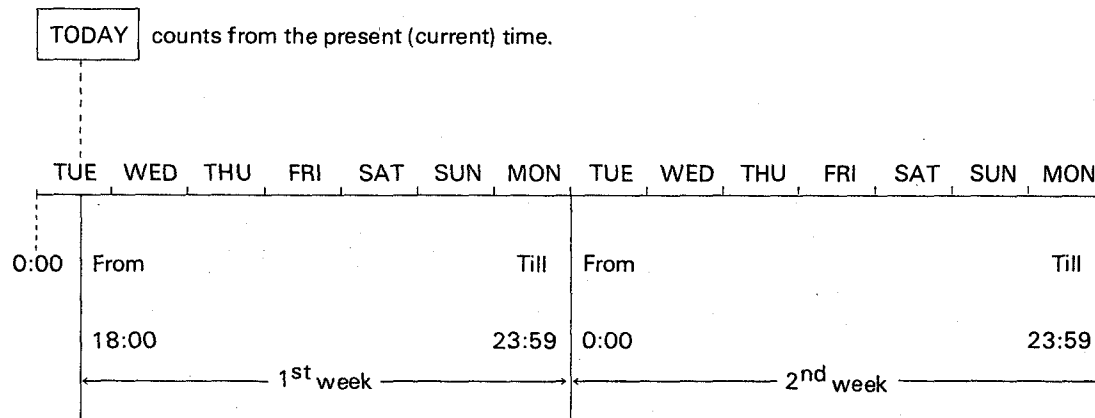
**Example III: Programme No. 3, Channel 8, everyday of the week from 23 : 00 to 23 : 15**

1. Follow the same steps 1 and 2 as in the above EXAMPLE I.
2. Press the SET button until both "1st" and "2nd" flash. Press the ENTER button.
3. Press the SET button until the days of week all flash ("SUN MON TUE WED THU FRI SAT").
4. Follow the same steps 3 through 14 as in the above EXAMPLE I.

**Example IV: Programme No. 4, Channel 10, every Saturday from 19 : 00 to 19 : 30**

1. Follow the same steps 1 and 2 as in the above EXAMPLE I.
2. Press the SET button until both "1st" and "2nd" flash.
3. Follow the same steps 3 through 14 as in the above EXAMPLE I.

**Note:** The 14 days period is divided into the "1st" and "2nd" weeks, and the time span of each week for the timer memory is calculated as illustrated below:



# SECTION 2. ELECTRICAL ADJUSTMENTS

## 1. REMOTE CONTROL ADJUSTMENT METHOD

| Adjustment Part | Measuring Point | Measuring Equipment | Conditions of Adjustment |
|-----------------|-----------------|---------------------|--------------------------|
| LR61            | TPR65           | Oscilloscope        | STOP                     |

### Adjustment Method

- (1) Place the remote control transmitter in front of the light receiving section and keep the STOP key pressed.
- (2) Adjust LR61 to obtain the maximum voltage at TPR65.

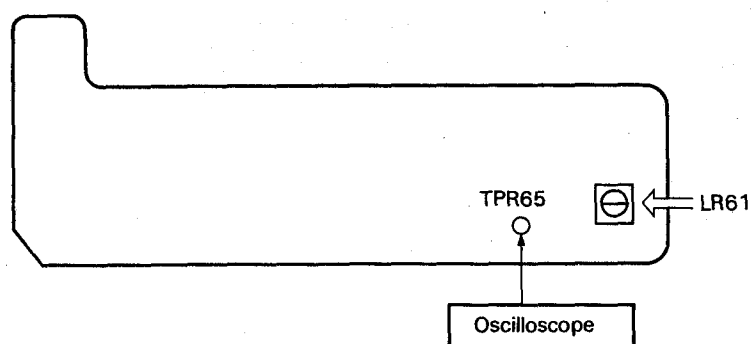
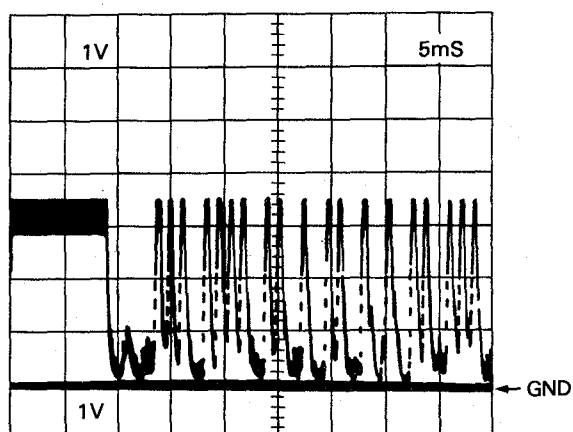
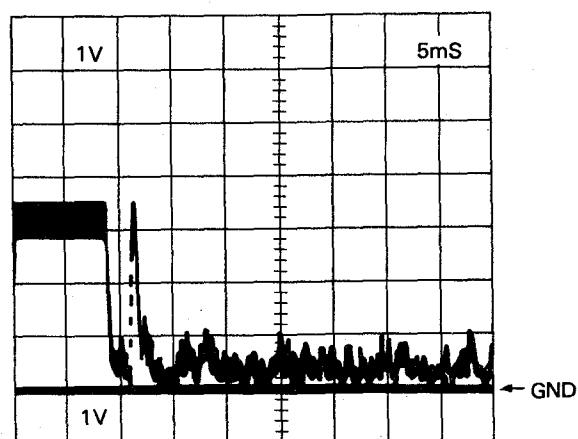


Fig. 1 Remote switch unit (parts side)



(a) Transmission code (first time)  
(at the moment when the transmitter key is pressed)

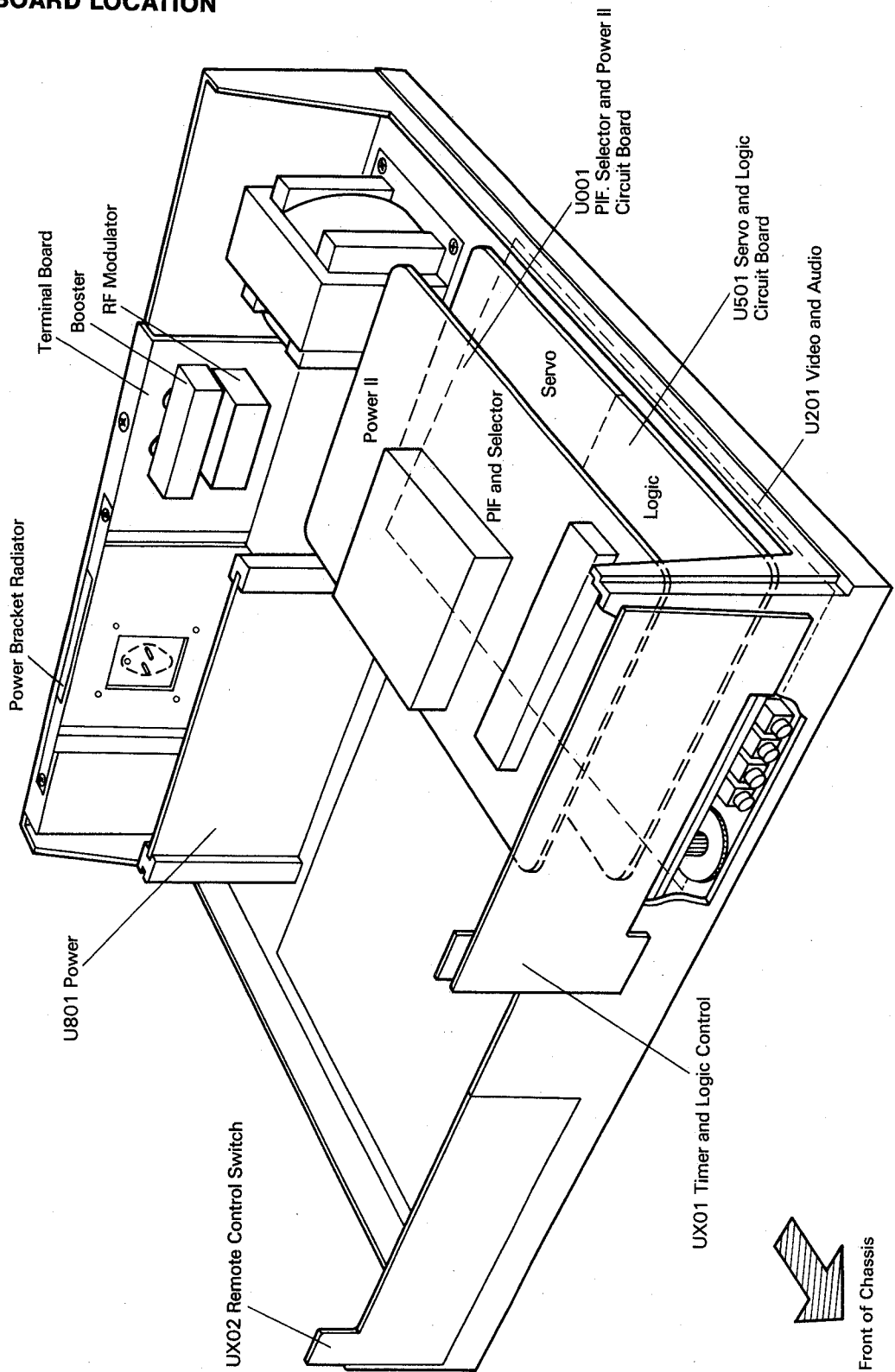


(b) Transmission code (second time)

Fig. 2 TPR65 voltage waveform

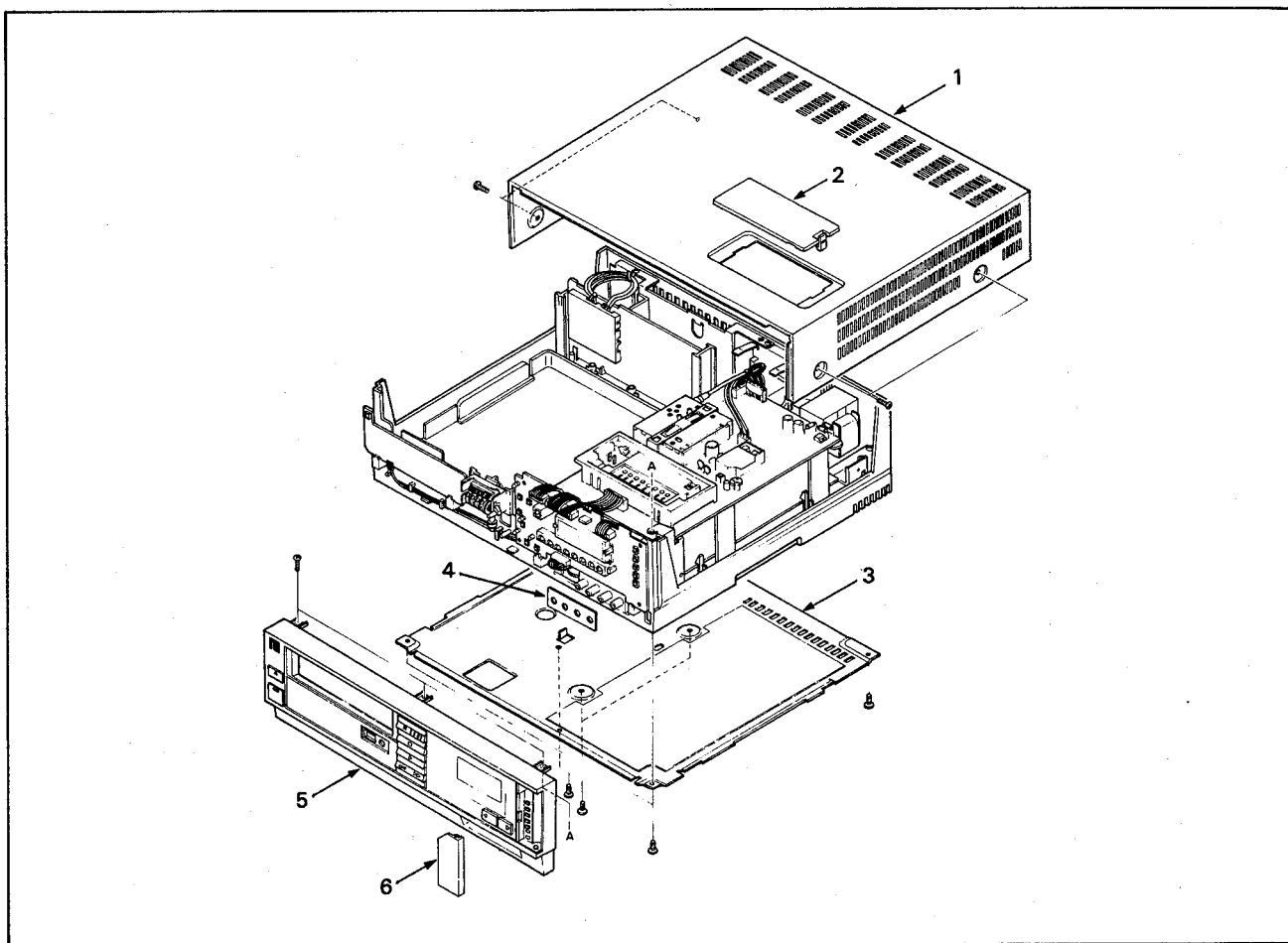


2. PW BOARD LOCATION



# SECTION 3. EXPLODED VIEWS AND PARTS LIST

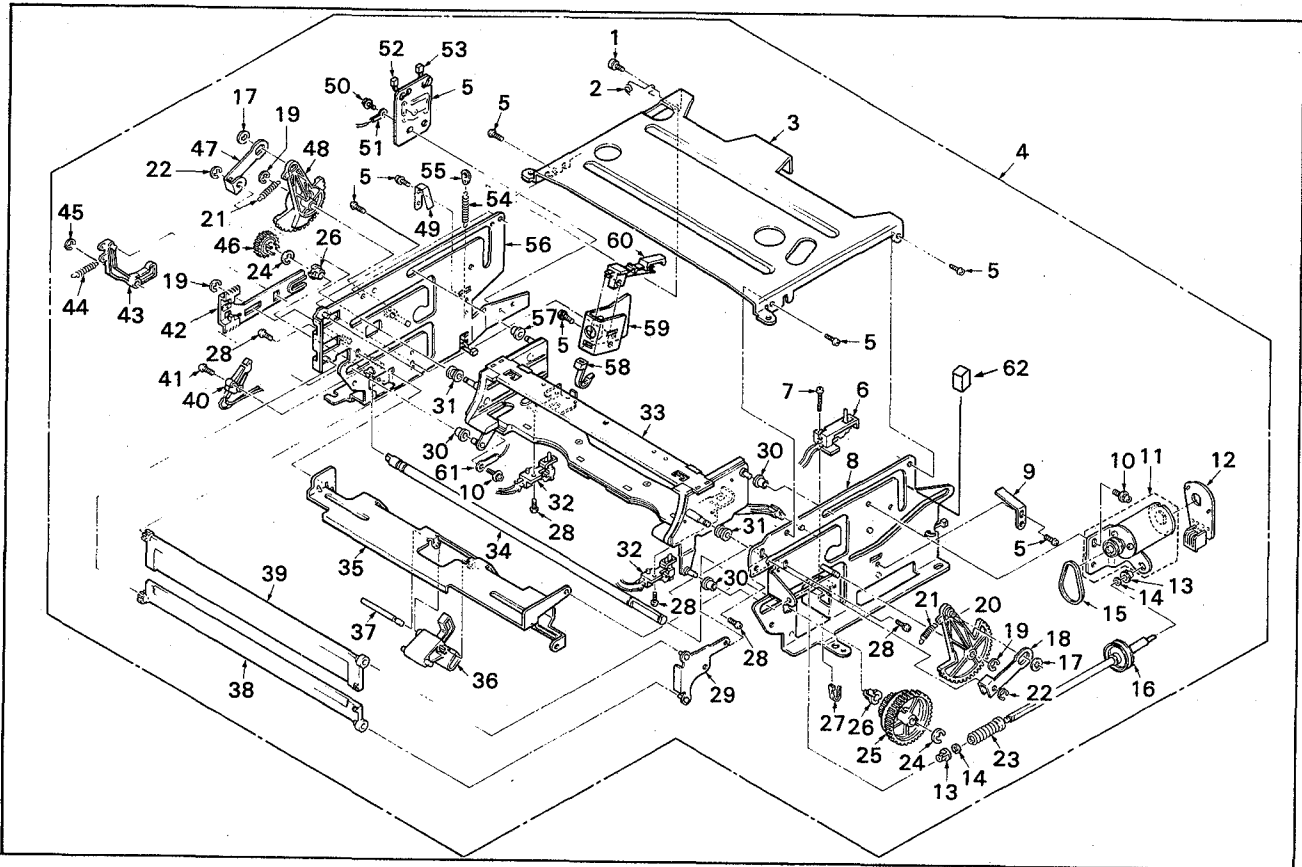
## 3-1. CABINET ASSEMBLY



| Key No. | Location No. | Part No. | Description            |
|---------|--------------|----------|------------------------|
| 1       | A102         | 70814221 | Top Cover              |
| 2       | A102B        | 70863164 | Door, Top              |
| 3       | A103         |          | Bottom Shield Assembly |
| 4       | A106         |          | Cover, Line            |
| 5       | A101         | 70812244 | Front Panel            |
| 6       | A101B        | 70863131 | Door, Front            |

**NOTE:** Parts without Parts Number in Parts List are not available as replacement parts.

### 3-2. FRONT LOADING ASSEMBLY

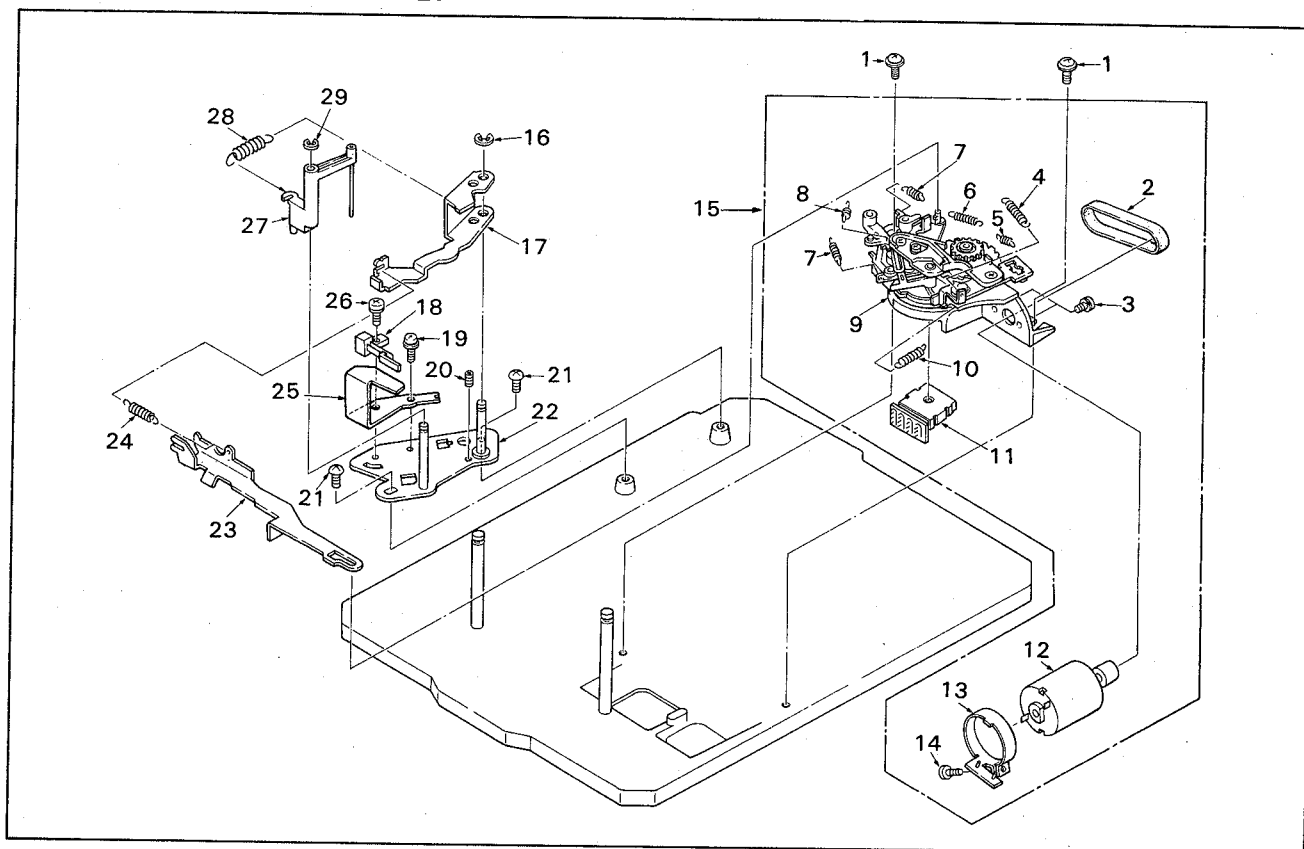


| Key No. | Location No. | Part No. | Description                       |
|---------|--------------|----------|-----------------------------------|
| 1       | K360B        |          | Screw, 2.6×6 mm                   |
| 2       | K348         |          | Spring, Wire Hold                 |
| 3       | K360         |          | Top Board                         |
| 4       | K301         | 70314102 | Front Loading Assembly            |
| 5       | K360A        |          | Screw, 2.6×5 mm                   |
| 6       | S621         | 70145111 | Switch, Error Erase Prevention    |
| 7       | S621F        |          | Screw, 2.6×12 mm                  |
| 8       | K320         |          | Bracket, Right                    |
| 9       | K337         |          | Spring                            |
| 10      | K325A        |          | Screw, 3×5 mm                     |
| 11      | K325         | 70324190 | Bracket Assembly, Motor           |
| 12      | U621         |          | Switch Trans Board, Front Loading |
| 13      | K336         |          | Shaft Holder B                    |
| 14      | K322J        |          | Polyslider, 2.6×4.7×0.5 mm        |
| 15      | K335         | 70342121 | Belt, Square, Loading             |
| 16      | K322         |          | Worm Shaft Assembly               |
| 17      | K334         | 70394060 | Washer C STW-3                    |
| 18      | K330         |          | Link, Connector, Right            |
| 19      | K333A        |          | E-Ring, 3 mm                      |
| 20      | K333         |          | Arm, Gear                         |
| 21      | K332         |          | Spring, Cassette Lock             |
| 22      | K330A        | 70394075 | E-Ring                            |
| 23      | K326         |          | Worm Gear                         |
| 24      | K353A        |          | E-Ring                            |
| 25      | K353         |          | Worm Wheel                        |
| 26      | K350         |          | Shaft Holder A                    |
| 27      | S621C        |          | Lead Holder                       |
| 28      | K354A        |          | Screw, 2.6×4 mm                   |
| 29      | K223         |          | Bracket Assembly                  |
| 30      | K358         |          | Guide Roller B                    |
| 31      | K357         |          | Guide Roller A                    |

| Key No. | Location No. | Part No. | Description                      |
|---------|--------------|----------|----------------------------------|
| 32      | S632         | 70145193 | Switch, Cassette Detect          |
| 33      | K303A        |          | Bracket, Cassette Holder         |
| 34      | K352         |          | Shaft Gear                       |
| 35      | K354         |          | Bracket, Cassette Guide          |
| 36      | K355         |          | Lever                            |
| 37      | K356         |          | Shaft                            |
| 38      | K371         | 70863135 | Door, Lower                      |
| 39      | K370         | 70863134 | Door, Upper                      |
| 40      | S631         | 70145195 | Switch, Slot Out                 |
| 41      | S631E        |          | Screw, 2×10 mm                   |
| 42      | K342         |          | Slider, Door                     |
| 43      | K343         |          | Lever, Door                      |
| 44      | K345         |          | Spring, Door Chose               |
| 45      | K343A        |          | E-Ring, 2 mm                     |
| 46      | K351         |          | Gear, Drive L                    |
| 47      | K331         |          | Link, Connector, Left            |
| 48      | K340         |          | Cam Gear                         |
| 49      | K338         | 70352065 | Spring                           |
| 50      | U631D        |          | Screw, 3×6 mm                    |
| 51      | K372         | 23094301 | Lag Terminal                     |
| 52      | U631B        |          | Lead Holder                      |
| 53      | U631         |          | Switch Trans Board Front Loading |
| 54      | K347         |          | Spring, Wire Guide               |
| 55      | K346         |          | Guide Plate                      |
| 56      | K321         |          | Bracket, Left                    |
| 57      | K359         |          | Guide Roller C                   |
| 58      | S634C        |          | Lead Holder                      |
| 59      | K349         |          | Bracket, Cassette Down           |
| 60      | S634         | 70145168 | Switch, Leaf                     |
| 61      | W134         |          | Wire                             |
| 62      | K365         |          | Cushion, FL motor                |

**NOTE:** Parts without Parts Number in Parts List are not available as replacement parts.

### 3-3. LOADING CAM UNIT COMPARTMENT ASSEMBLY

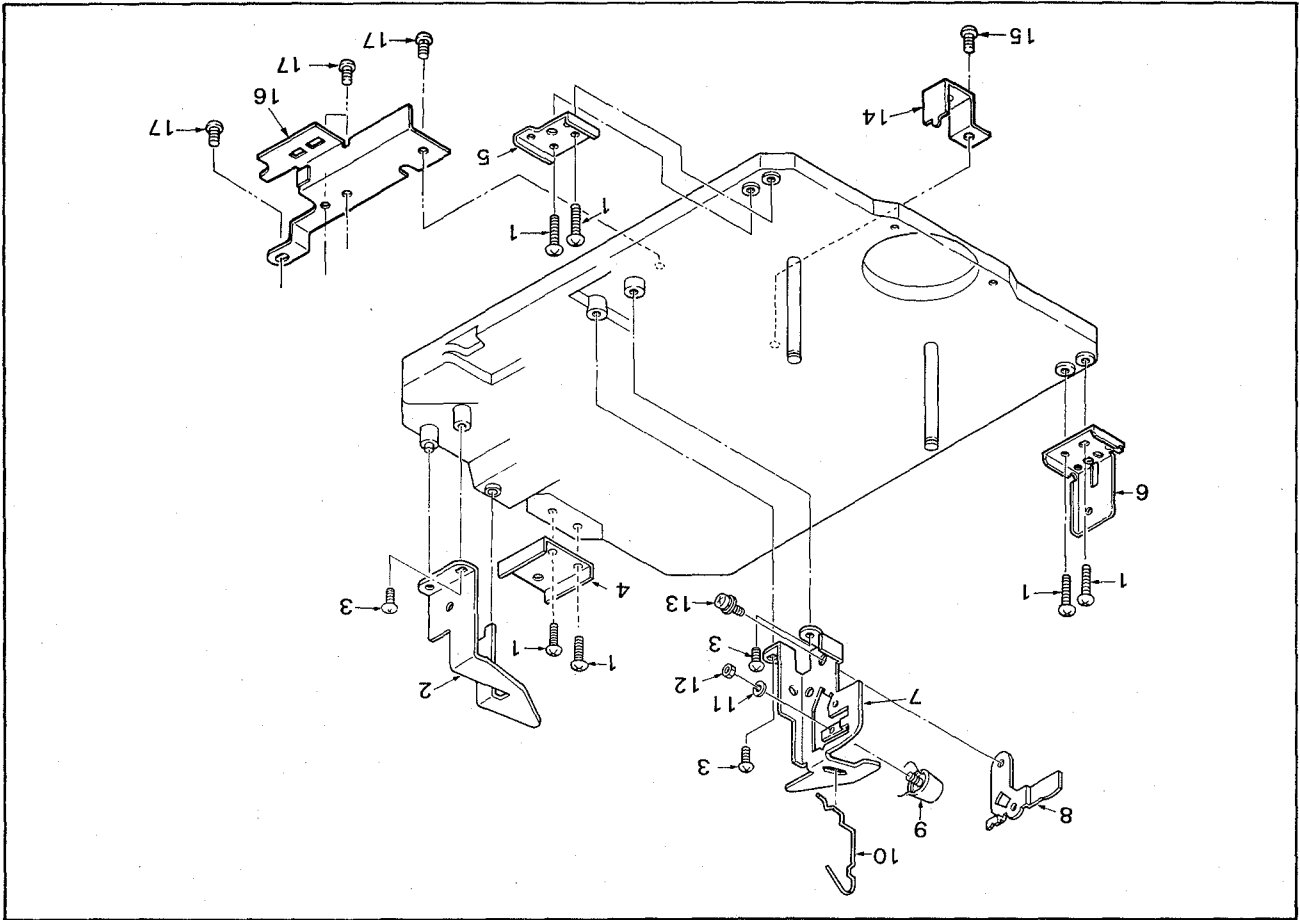


| Key No. | Location No. | Part No. | Description                |
|---------|--------------|----------|----------------------------|
| 1       | B501A        |          | Screw, 3×8 mm              |
| 2       | B508         | 70342092 | Belt, Loading Cam          |
| 3       | B504         |          | Screw, 2.6×6 mm            |
| 4       | B529         | 70351405 | Spring, Lock Arm           |
| 5       | B510         |          | Spring, Ratchet            |
| 6       | B519         | 70351402 | Spring, Cam Arm            |
| 7       | B527         | 70351403 | Spring, Lock Arm A         |
| 8       | B523         | 70351404 | Spring, Lock Arm B         |
| 9       | B502         |          | LC Motor Bracket Assembly  |
| 10      | B523         | 70351408 | Spring, Reverse Prevention |
| 11      | B509         | 70145199 | Cam Switch Assembly        |
| 12      | B503         | 70322225 | Motor Assembly, LC         |
| 13      | B503A        |          | Shield Assembly            |
| 14      | B503C        |          | Screw, 2.6×6 mm            |
| 15      | B501         |          | LC Drive Assembly          |
| 16      | B122A        |          | E-Ring, 3 mm               |
| 17      | B122         |          | Pinch Lock Lever           |

| Key No. | Location No. | Part No. | Description                  |
|---------|--------------|----------|------------------------------|
| 18      | S656         | 70145168 | Switch, Leaf                 |
| 19      | B126         |          | Screw, 3×5 mm                |
| 20      | B125         |          | Screw, 3×5 mm Set            |
| 21      | B120A        |          | Screw, 3×8 mm                |
| 22      | B121         |          | Bracket Assembly, Pinch Lock |
| 23      | B151         |          | Cam, Link                    |
| 24      | B152         |          | Spring, Pinch Lock           |
| 25      | B126         |          | Bracket, Slack Switch        |
| 26      | S656B        |          | Screw, 2.6×6 mm              |
| 27      | B123         | 70321513 | Lever Assembly, Slack Switch |
| 28      | B124         | 70351483 | Spring, Slack Lever          |
| 29      | B123C        | 70394075 | E-Ring, 2.3 mm               |

**NOTE:** Parts without Parts Number in Parts List are not available as replacement parts.

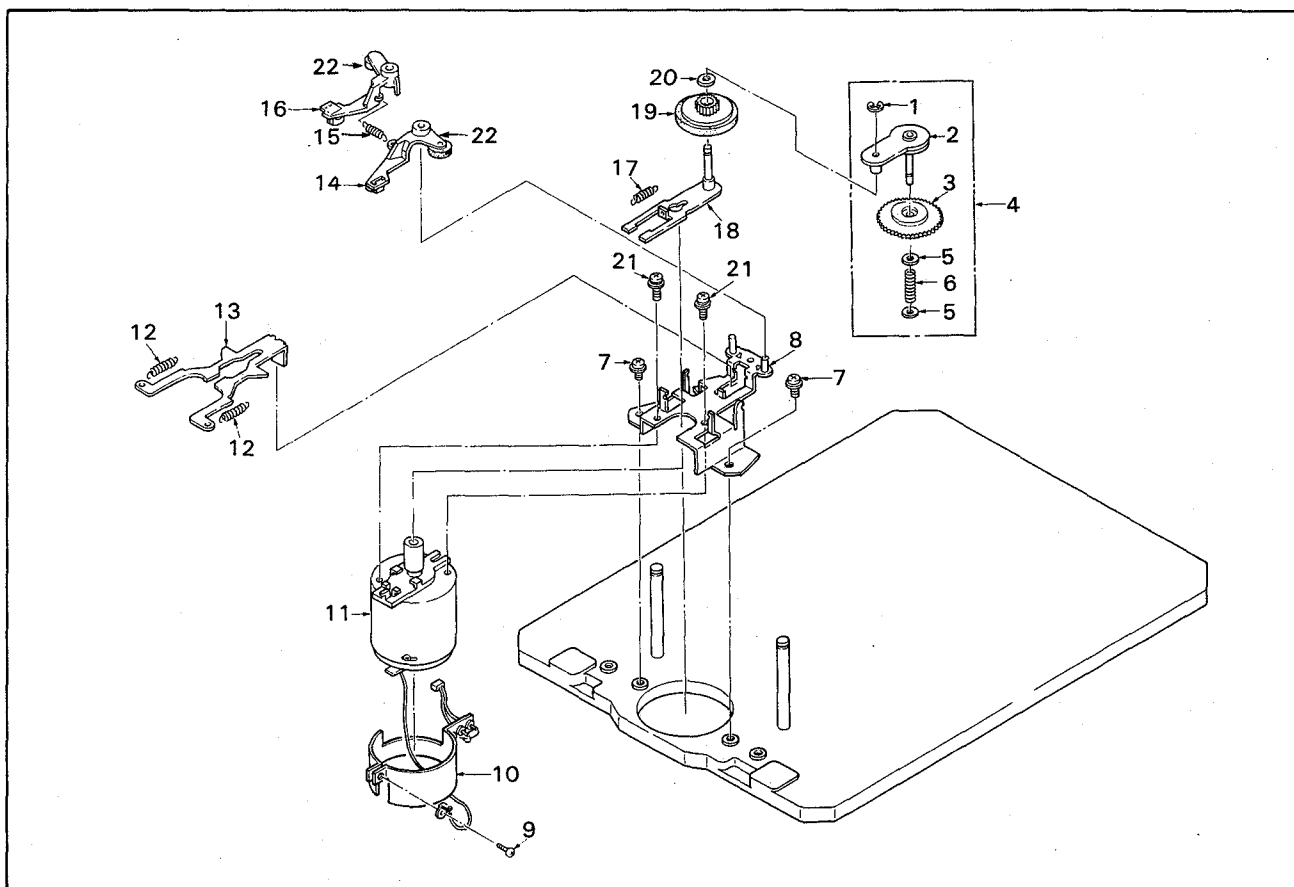
# 3-4. MAIN CHASSIS ASSEMBLY (RIGHT SIDE)



| Key No. | Location No. | Part No. | Description           |
|---------|--------------|----------|-----------------------|
| 1       | B605A        |          | Screw, 3 x 10 mm      |
| 2       | B181         |          | Pinch Bracket         |
| 3       | B181A        |          | Screw, 3 x 8 mm       |
| 4       | B605         |          | Bracket, Back         |
| 5       | B603         |          | Bracket, Right        |
| 6       | B607         |          | Bracket, Left         |
| 7       | K251         |          | Opener Assembly,      |
| 8       | K253         |          | Cassette Compartment  |
| 9       | L661         |          | Lever, Lever Adjust   |
| 10      | K257         |          | Earth Wire            |
| 11      | L661A        | 23056200 | Washer, 2 mm          |
| 12      | L661B        | 23742020 | Nut, 2 mm             |
| 13      | K254         |          | Screw, 3 x 6 mm       |
| 14      | B613         |          | Bracket, Earth        |
| 15      | B613A        |          | Screw, 3 x 10 mm      |
| 16      | V205         |          | Shield Plate          |
| 17      | V205A        |          | Screw, 3 x 0.5 x 5 mm |

**NOTE:** Parts without Parts Number in Parts List are not available as replacement parts.

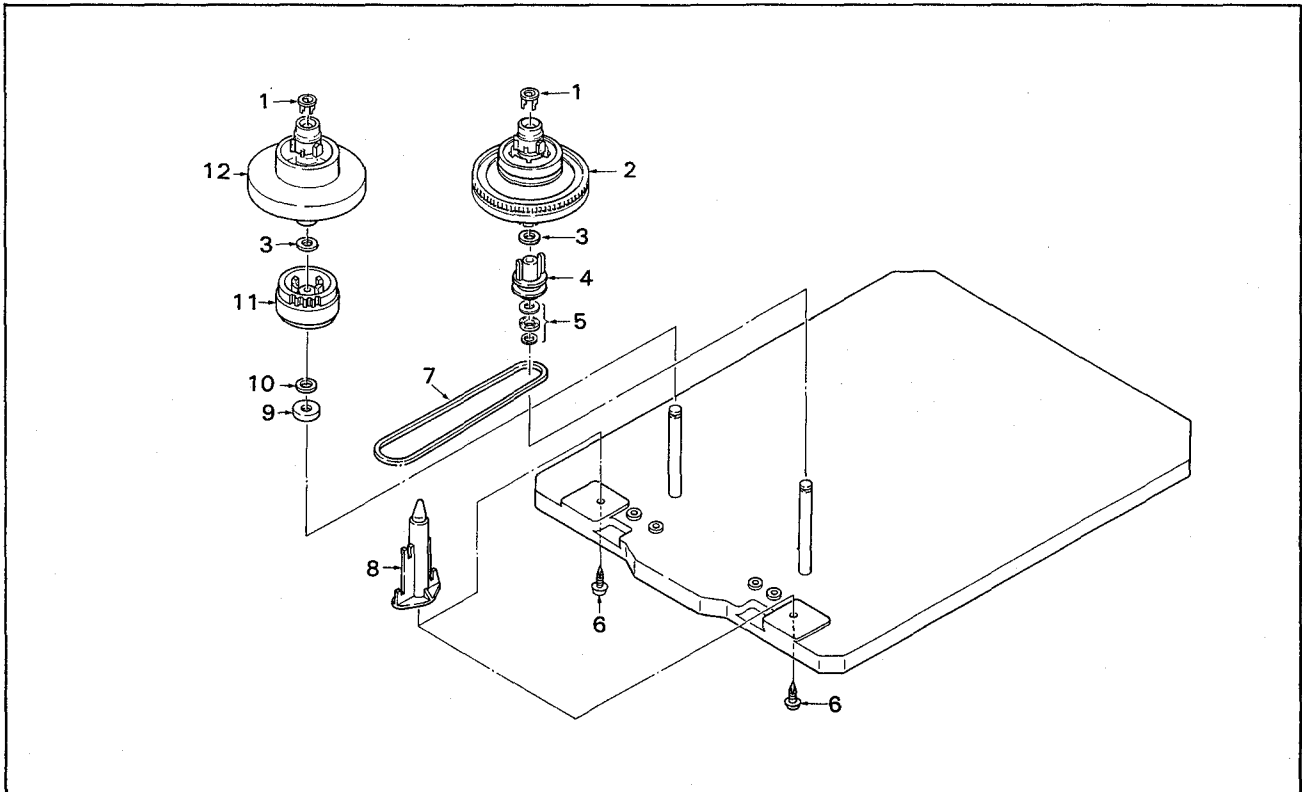
### 3-5. REEL MOTOR ASSEMBLY



| Key No. | Location No. | Part No. | Description                            |
|---------|--------------|----------|--|
| 1       | K107         | 23002150 | E-Ring, 1.5 mm                         |
| 2       | K106K        |          | Idle Holder B Assembly                 |
| 3       | K106P        |          | Idle Gear                              |
| 4       | K106H        | 70326467 | Clutch Assembly, Idler                 |
| 5       | K106R        | 70396003 | Polyslider, 2.1×4.0×0.25 mm            |
| 6       | K106Q        | 70351457 | Spring, Clutch Torque                  |
| 7       | K101A        |          | Screw, 3×8 mm                          |
| 8       | K102         |          | Chassis Assembly, Reel Drive           |
| 9       | K111C        |          | Screw, 2.6×6 mm                        |
| 10      | K111         |          | Tapping<br>Shield Assembly, Reel Motor |
| 11      | K110         | 70326451 | Motor Assembly, Reel Drive             |
| 12      | K109         |          | Spring, Slider                         |
| 13      | K103         |          | Slider                                 |
| 14      | K105         | 70326432 | Brake Assembly, Take Up                |
| 15      | K105E        |          | Spring, Brake                          |
| 16      | K104         | 70326431 | Brake Assembly, Supply                 |
| 17      | K108         | 70351458 | Spring, Idler                          |
| 18      | K106A        |          | Idle Holder Assembly                   |
| 19      | K106D        | 70326449 | Gear Assembly, Idler Wheel             |
| 20      | K106G        |          | Washer, Thrust                         |
| 21      | K110E        |          | Screw, 2.6×4 mm                        |
| 22      | K104B        | 70353101 | Tire, Pause Lever                      |

**NOTE:** Parts without Parts Number in Parts List are not available as replacement parts.

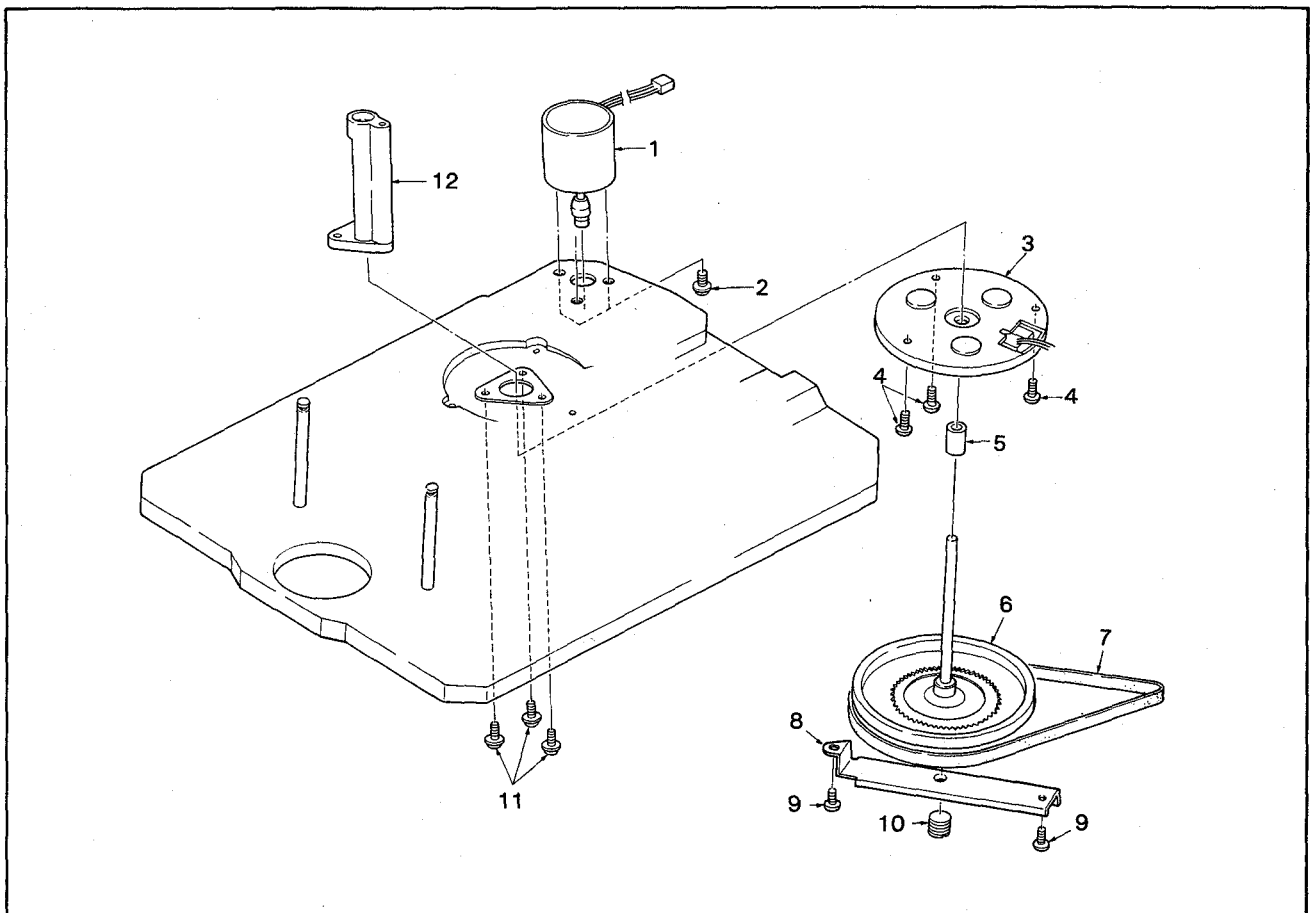
### 3-6. REEL CHASSIS ASSEMBLY



| Key No. | Location No. | Part No. | Description                  |
|---------|--------------|----------|------------------------------|
| 1       | K173         | 70368001 | Stopper, Reel Table          |
| 2       | K171         | 70327058 | Reel Table Assembly, Take-up |
| 3       | K154, K175   | 70394048 | Washer, 4×9×0.2 mm           |
| 4       | K172         |          | Pulley, Reel Table           |
| 5       | K170         | 70348028 | Bearing, Thrust              |
| 6       | K267         |          | Screw, 3×10 mm               |
| 7       | K268         | 70342099 | Belt, Counter                |
| 8       | K266         |          | Guide Post, Cassette         |
| 9       | K150         | 70394081 | Spacer, Reel Table           |
| 10      | K153         |          | Polyslider, 4.1×6.5×0.5 mm   |
| 11      | K157         |          | Brake, Wheel                 |
| 12      | K151         | 70331094 | Reel Table Assembly, Supply  |

**NOTE:** Parts without Parts Number in Parts List are not available as replacement parts.

### 3-7. CAPSTAN DRIVE ASSEMBLY

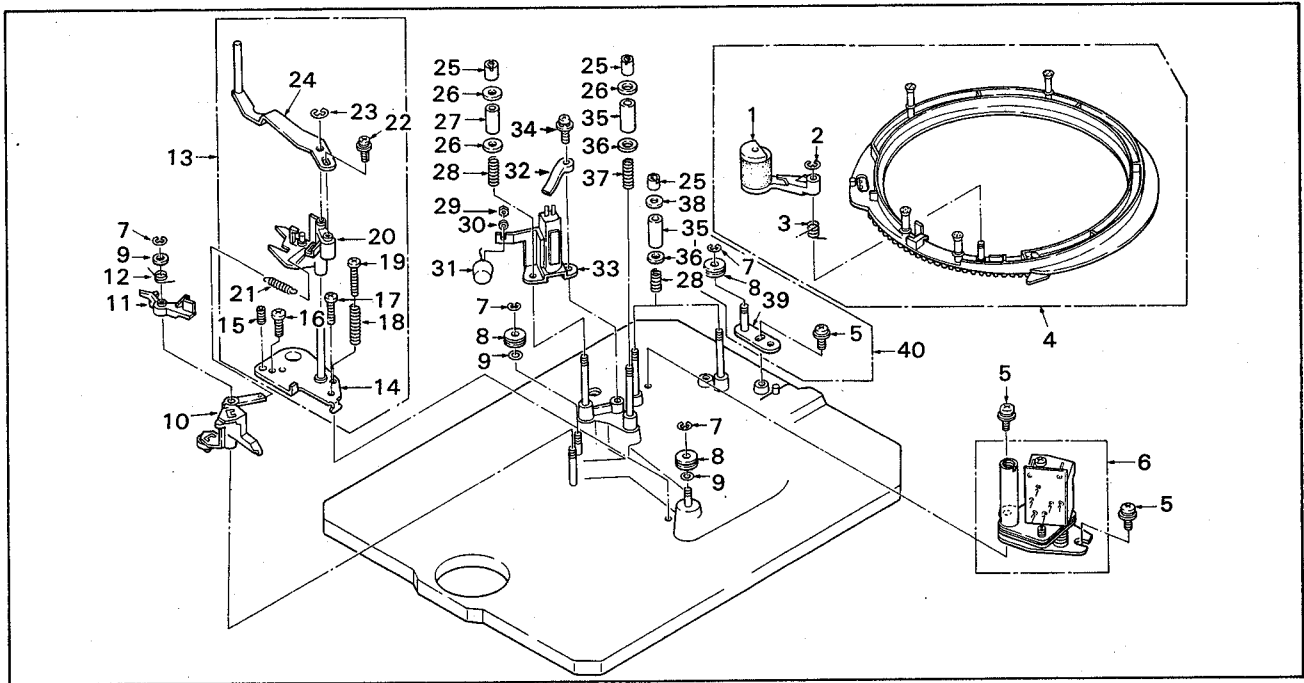


| Key No. | Location No. | Part No. | Description                      |
|---------|--------------|----------|----------------------------------|
| 1       | B309         | 70125107 | Motor Assembly, DC, Capstan      |
| 2       | B309A        |          | Screw, 2.6×4.6 mm                |
| 3       | L551         | 70321672 | Coil Assembly                    |
| 4       | B301A        |          | Screw, 3×0.5×6 mm                |
| 5       | B304D        | 70368004 | Spacer, Capstan                  |
| 6       | B304         |          | Flywheel Assembly                |
| 7       | B307         | 70342082 | Belt, Flat, Capstan              |
| 8       | B302         |          | Bracket Assembly, Thrust Bearing |
| 9       | B302A        |          | Screw, 3×8 mm                    |
| 10      | B302B        |          | Bearing, Thrust                  |
| 11      | G270C        |          | Screw, 3×0.5×6 mm                |
| 12      | G270         |          | Sleeve, Capstan                  |

**NOTE:** Parts without Parts Number in Parts List are not available as replacement parts.



### 3-8. MAIN BASE ASSEMBLY

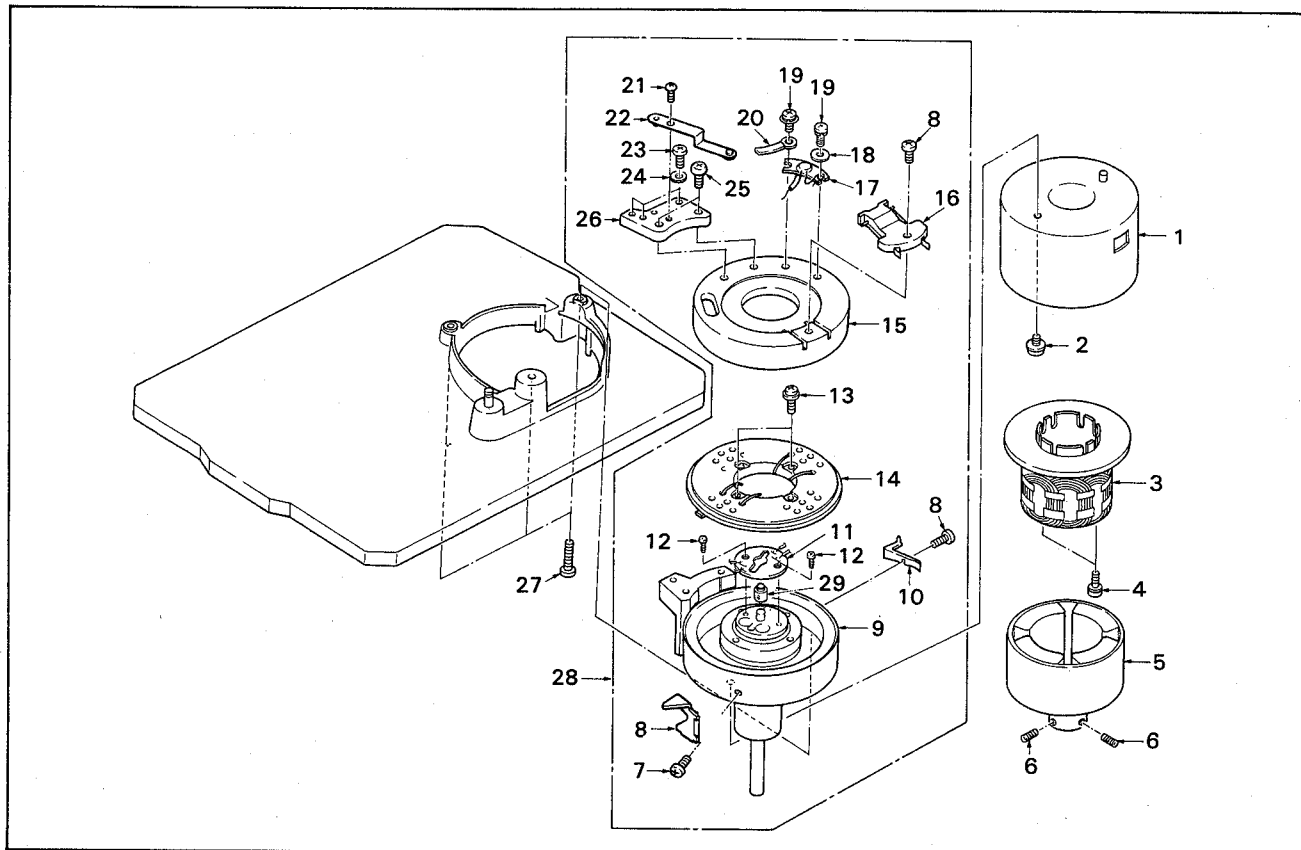


| Key No. | Location No. | Part No. | Description                  |
|---------|--------------|----------|------------------------------|
| 1       | B404         |          | Level Assembly, Pinch Roller |
| 2       | B408         | 23002200 | E-Ring, 2 mm                 |
| 3       | B403         | 70351263 | Spring, Pinch Roller         |
| 4       | B401         | 70312083 | Loading Disk Assembly        |
| 5       | G202A        |          | Screw, 3×8 mm                |
| 6       | G202         | 70321557 | Guide Assembly, Exit         |
| 7       | G275E        | 70394075 | E-Ring, 2.3 mm               |
| 8       | G276         |          | Roller, Disk Guide           |
| 9       | B108A        |          | Polyslider, 3.1×5.4×0.5 mm   |
| 10      | B105         | 70321449 | Tension Sub Arm Assembly     |
| 11      | B107         |          | Lever, Arm Shift             |
| 12      | B108         |          | Spring, Arm Shift Lever      |
| 13      | B101         |          | Tension Servo Assembly       |
| 14      | B104         |          | Tension Bracket Assembly     |
| 15      | B104C        |          | Screw, 3×6 mm                |
| 16      | B101E        |          | Screw, 3×0.5×5 mm            |
| 17      | B101A        |          | Screw, 3×0.5×10 mm           |
| 18      | B101B        |          | Spring, Adjust               |
| 19      | B101C        |          | Screw, 3×0.5×20 mm           |
| 20      | B103         |          | Tension Lever                |
| 21      | B106         | 70351316 | Spring, Tension              |

| Key No. | Location No. | Part No. | Description                 |
|---------|--------------|----------|-----------------------------|
| 22      | B102C        |          | Screw, 3×10 mm, Tapping     |
| 23      | B103A        |          | E-Ring, 3 mm                |
| 24      | B102         | 70321447 | Tension Arm Assembly        |
| 25      | G259         |          | Nut                         |
| 26      | G256         |          | Flange, First Guide         |
| 27      | G251         |          | Guide, Pole, First          |
| 28      | G260         |          | Spring, Tape Exit Guide     |
| 29      | L662A        |          | Nut, 2 mm                   |
| 30      | L662B        |          | Washer, 2 mm                |
| 31      | L662         | 70212003 | Coil, Sensing, 0.18 mm      |
| 32      | H032B        |          | Lead Holder                 |
| 33      | H032         | 70183012 | Head Assembly, Full Erase   |
| 34      | H032A        |          | Screw, 3×12 mm              |
| 35      | G261         |          | Guide Pole, Entrance        |
| 36      | G263         |          | Flange, Exit Guide, Lower   |
| 37      | G253         |          | Spring, Second Guide        |
| 38      | G262         |          | Flange, Exit Guide          |
| 39      | G275A        |          | Bracket, Roller Bracket     |
| 40      | G275         |          | Roller Assembly, Disk Guide |

**NOTE:** Parts without Parts Number in Parts List are not available as replacement parts.

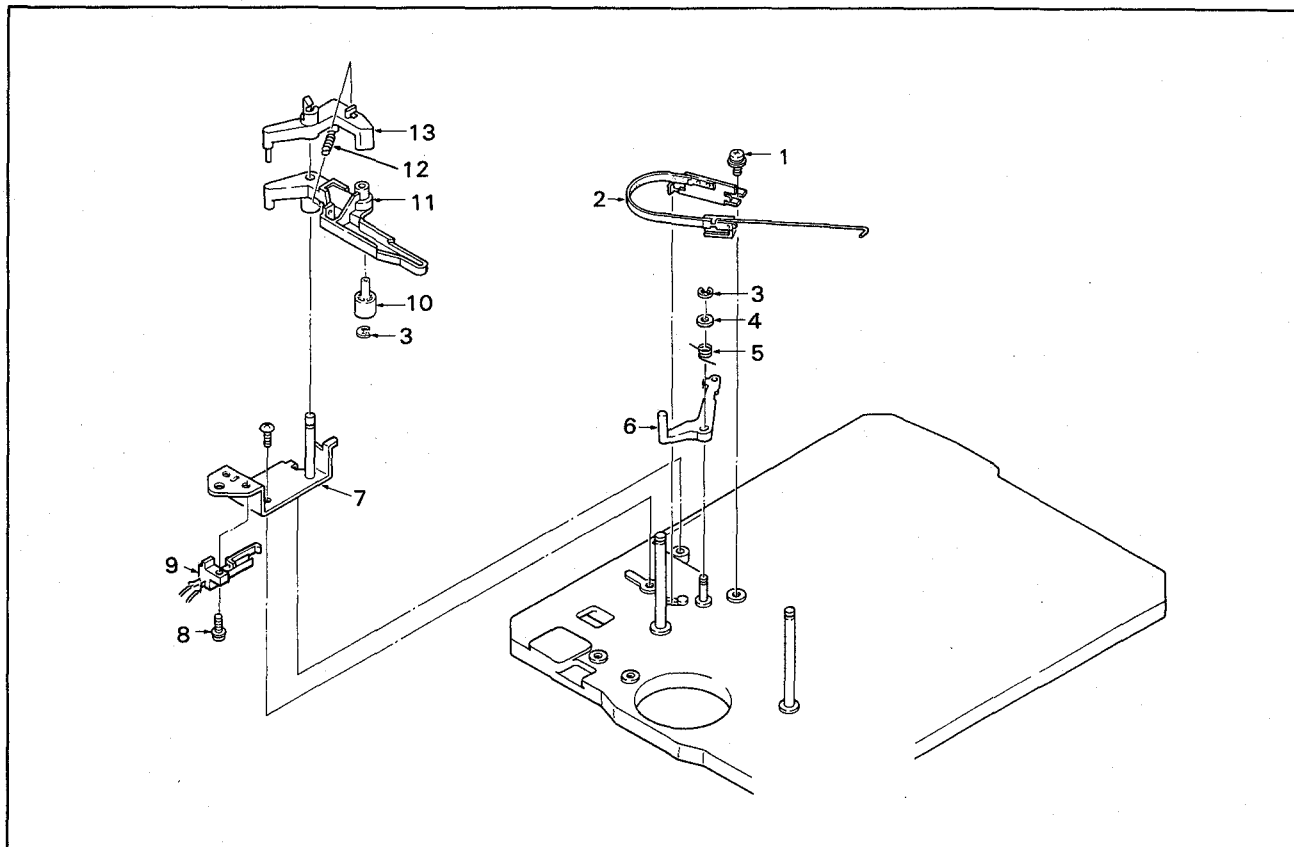
### 3-9. CYLINDER ASSEMBLY



| Key No. | Location No. | Part No. | Description              |
|---------|--------------|----------|--------------------------|
| 1       | G153         |          | Shield, Case Assembly    |
| 2       | G153A        |          | Screw, 3×6 mm            |
| 3       | G152         | 70125104 | Starter                  |
| 4       | G152A        |          | Screw, 2×5 mm            |
| 5       | G151         | 70125103 | Rotor Assembly           |
| 6       | G151A        |          | Screw, 4×6 mm            |
| 7       | G137C        |          | Screw, 3×0.5×6 mm        |
| 8       | G137         |          | Tape Holder B            |
| 9       | G101         | 70321544 | Lower Cylinder           |
| 10      | G136         |          | Tape Holder A            |
| 11      | G110         | 70193220 | PC Board Assembly, Relay |
| 12      | G110A        |          | Screw, 2.6×5 mm          |
| 13      | G120A        | 70391046 | Screw, 3×8 mm, W/Washer  |
| 14      | G120         | 70321542 | Video Head Assembly      |
| 15      | G131         | 70321343 | Upper Cylinder           |
| 16      | G132         | 70321232 | Tape Holder Assembly     |
| 17      | RL92         | 70213074 | Dew Heater               |
| 18      | RL92E        |          | Washer                   |
| 19      | G132A        |          | Screw, 3×8 mm            |
| 20      | RL92C        |          | Lead Holder              |
| 21      | G133H        |          | Screw, 2.6×4 mm          |
| 22      | G133D        | 70321596 | Spring, Brush            |
| 23      | G133B        |          | Screw, 3×0.5×10 mm       |
| 24      | G133C        |          | Washer, 3 mm             |
| 25      | G133A        |          | Screw, 4×8 mm            |
| 26      | G133         |          | Bracket                  |
| 27      | G001A        |          | Screw, 3×10 mm           |
| 28      | G011         | 70311144 | Cylinder Assembly        |
| 29      | G105E        |          | Cap Assembly             |

**NOTE:** Parts without Parts Number in Parts List are not available as replacement parts.

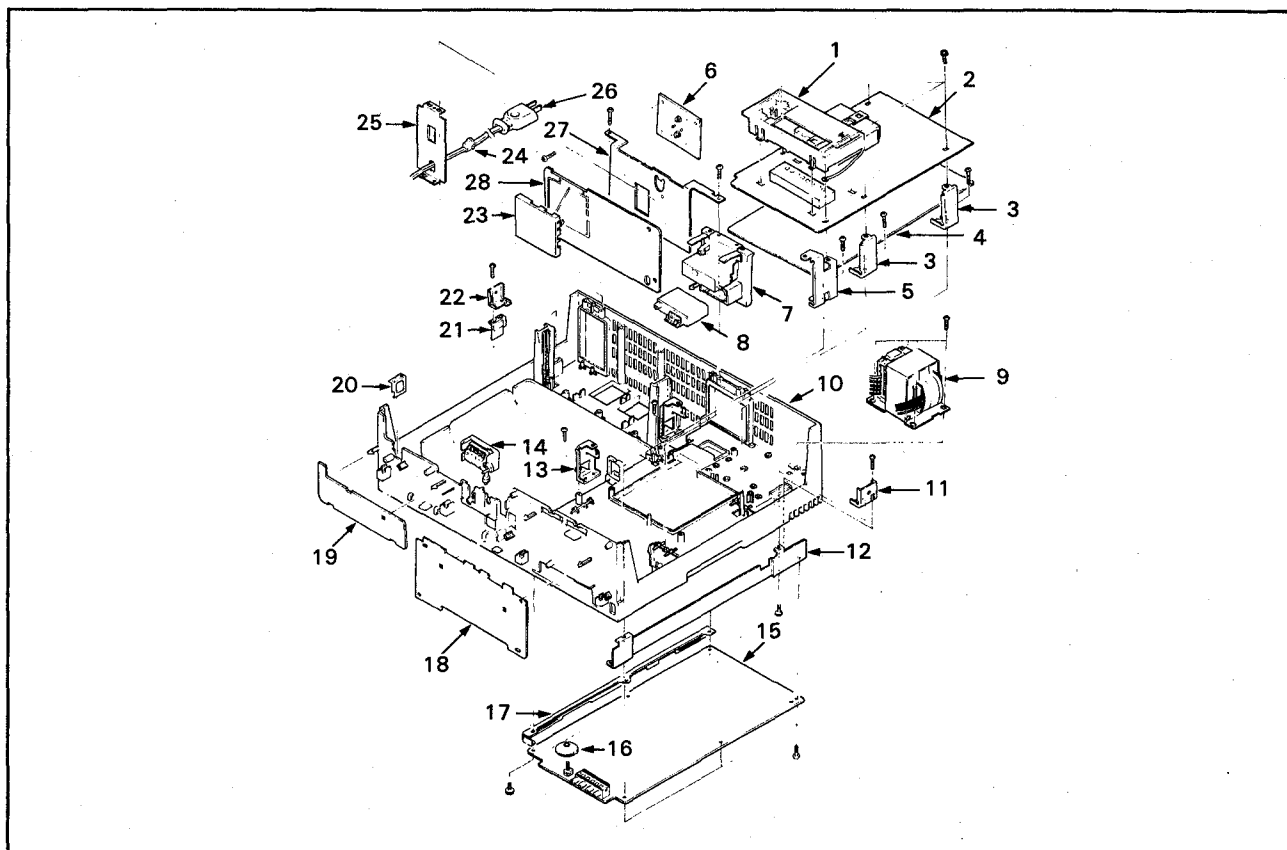
### 3-10. MAIN CHASSIS ASSEMBLY (LEFT SIDE)



| Key No. | Location No. | Part No. | Description                   |
|---------|--------------|----------|-------------------------------|
| 1       | B110J        |          | Screw, 3×8 mm                 |
| 2       | B110         | 70321514 | Band Brake Assembly           |
| 3       | K264         | 70394075 | E-Ring, 2.3 mm                |
| 4       | K263         |          | Washer                        |
| 5       | K262         | 70351415 | Spring, Soft Brake            |
| 6       | K261         | 70363187 | Lever, Soft Brake             |
| 7       | K202         |          | Detect Bracket Assembly       |
| 8       | K654A        |          | Screw, 2.6×6 mm               |
| 9       | S654         | 70145168 | Switch, Leaf                  |
| 10      | K204         |          | Roller Clutch Assembly        |
| 11      | K203         | 70326456 | Detect Arm Assembly           |
| 12      | K208         |          | Spring, Cassette Detector     |
| 13      | K207         |          | Lever, Unloading End Detector |

**NOTE:** Parts without Parts Number in Parts List are not available as replacement parts.

### 3-11. CHASSIS ASSEMBLY

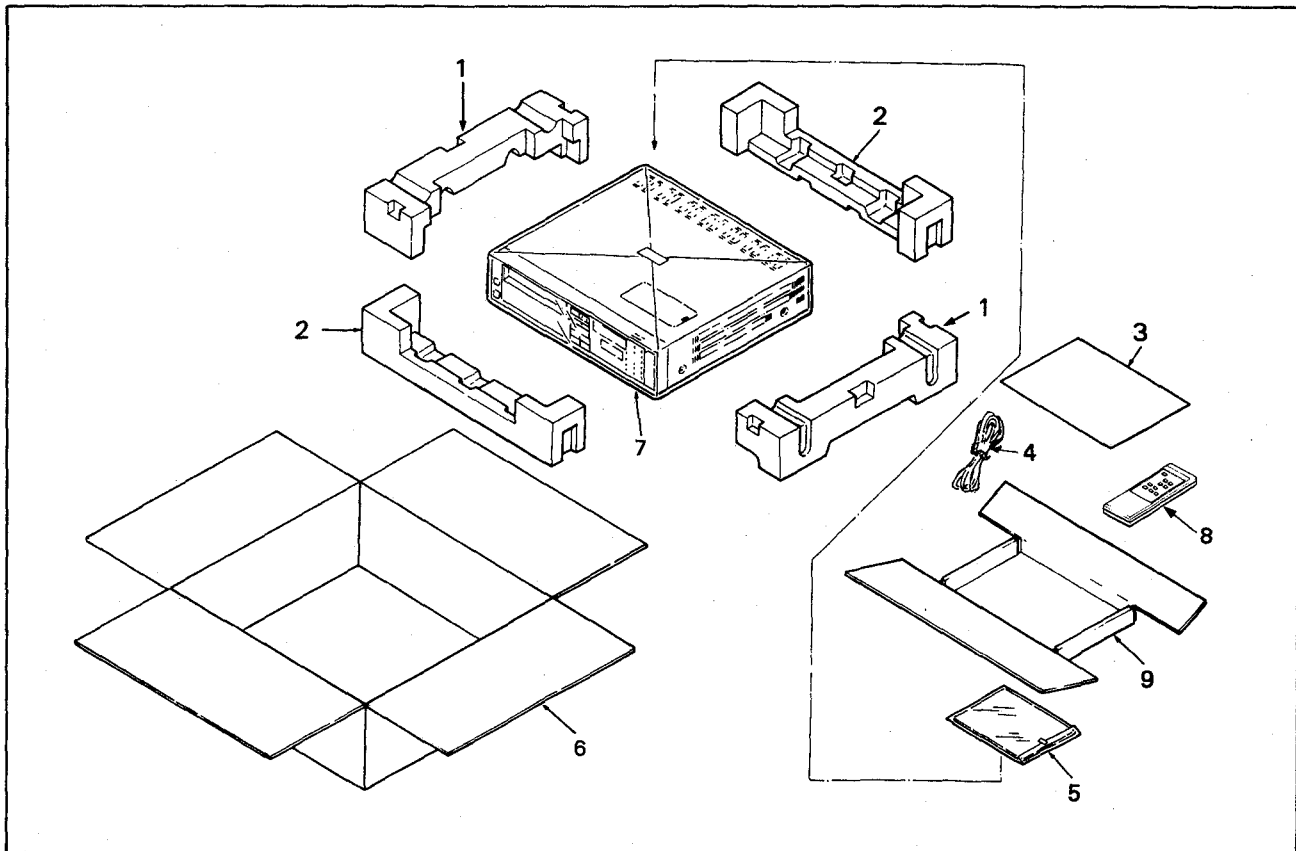


| Key No. | Location No. | Part No. | Description                                |
|---------|--------------|----------|--|
| 1       | A104         | 70843058 | Cover, Potentiometer                       |
| 2       | U001         | 70194010 | PC Board, Assembly, PIF SELECTOR & POWER 2 |
| 3       | B614         |          | Bracket, PIF & SELECTOR, Right             |
| 4       | U501         | 70191985 | PC Board, Assembly, SERVO & LOGIC          |
| 5       | B603         |          | Bracket, Right                             |
| 6       | V811         |          | Heat Shink, Power 2                        |
| 7       | H003         | 70142054 | Terminal Board Antenna VT-615              |
| 8       | H004         | 70123053 | RF Unit MB5636T                            |
| 9       | T802         | 70213079 | Transformer, POWER VPW31S                  |
| 10      | B601         |          | Chassis Frame Assembly Bracket             |
| 11      | B611         |          | Plate, Shield                              |
| 12      | B612         |          | Bracket, Pip & Selector Left               |
| 13      | B615         |          | Counter                                    |
| 14      | B609         | 70141023 |  |

| Key No. | Location No. | Part No. | Description                               |
|---------|--------------|----------|---|
| 15      | U201         | 70191943 | PC Board, Assembly, VIDEO & AUDIO         |
| 16      | R550A        | 70862046 | Knob, Tracking                            |
| 17      | V201         |          | Retainer, Video & Audio                   |
| 18      | UX01         | 70191986 | PC Board, Assembly, TIMER & LOGIC CONTROL |
| 19      | UX02         | 70194011 | PC Board, Assembly, REMOTE CONTROL SWITCH |
| 20      | B606         |          | Plate, Spring (B)                         |
| 21      | B602         |          | Plate, Spring (A)                         |
| 22      | B604         |          | Bracket, RE                               |
| 23      | B616         |          | Cover, Power                              |
| 24      | P801A        | 70846044 | Holder, Power Cord                        |
| 25      | V802         |          | Bracket, Power in Holder                  |
| 26      | P801         | 70168060 | Power Cord                                |
| 27      | V811B        |          | Plate, Shield                             |
| 28      | U801         | 70191945 | PC Board, Assembly, POWER                 |

**NOTE:** Parts without Parts Number in Parts List are not available as replacement parts.

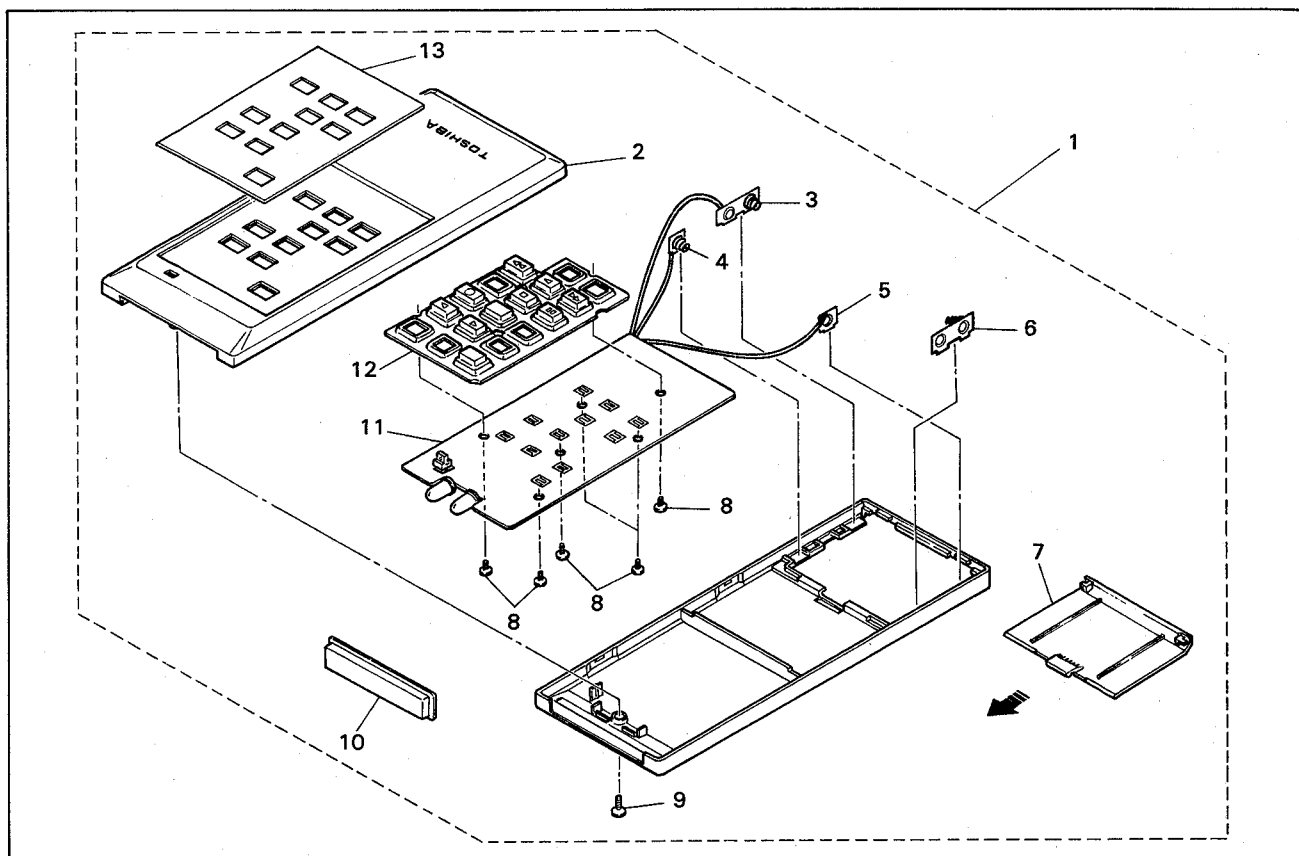
## 4-12. PACKING ASSEMBLY



| Key No. | Location No. | Part No. | Description            |
|---------|--------------|----------|------------------------|
| 1       | A702         | 70921102 | Packing, TOP           |
| 2       | A703         | 70921098 | Packing, Bottom        |
| 3       | Y102         | 70942100 | Sheet, Caution         |
| 4       | Y104         | 70168035 | PAL/SECAM Type Cable   |
| 5       | Y101         | 70941342 | Owners Manual          |
|         | Y103         | 70942265 | Quick Reference        |
| 6       | A701         | 70913278 | Carton Box             |
| 7       | A705         |          | Sheet, Cover           |
| 8       | Y116         | 70148072 | W/L Remote Transmitter |
| 9       | A707         | 70914913 | Tray                   |

**NOTE:** Parts without Parts Number in Parts List are not available as replacement parts.

### 3-13. REMOTE TRANSMITTER ASSEMBLY



| Key No. | Location No. | Part No. | Description                  |
|---------|--------------|----------|------------------------------|
| 1       | Y116         | 70148072 | W/L Remote Transmitter       |
| 2       | AT01         |          | Cover, Top                   |
| 3       | AT01E        |          | Battery Contact D            |
| 4       | AT01D        |          | Battery Contact C            |
| 5       | AT01B        |          | Battery Contact A            |
| 6       | AT01C        |          | Battery Contact B            |
| 7       | AT03         | 70862165 | Cover, Battery B             |
| 8       | AT01A        |          | Screw, M1.7 × 3.4 mm         |
| 9       | AT02A        |          | Screw, 2 × 8 mm              |
| 10      | AT04         |          | Filter                       |
| 11      | UT01         |          | PC Board Ass'y<br>W/L Remote |
| 12      | ST01         |          | Rubber Sheet Switch          |
| 13      | AT05         |          | Decoration Plate             |

**NOTE:** Parts without Parts Number in Parts List are not available as replacement parts.

## SECTION 4. ELECTRICAL PARTS LIST

ABBREVIATIONS: Capacitors..... CD: Ceramic Disk, PF: Plastic Film, EL: Electrolytic.  
Resistors..... CF: Carbon Film, CC: Carbon Composition, MF: Metal Film,  
OMF: Oxide Metal Film, VR: Variable Resistors.

(All CD and PF capacitors are  $\pm 5\%$ , 50V and all resistor,  $\pm 5\%$ , 1/8W unless otherwise.)

**NOTE:** Many electrical and mechanical parts in this chassis have special safety-related characteristics. The characteristics are often passed unnoticed by a visual inspection and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this manual and its supplements, electrical components having such features are identified by  $\Delta$  mark in the schematic diagram. Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts which do not have the same safety characteristics as specified in the parts list may create shock, fire or other hazards.

| LOCATION<br>NUMBER                                 | PART<br>NUMBER | DESCRIPTION                  | LOCATION<br>NUMBER | PART<br>NUMBER | DESCRIPTION                  |
|--|----------------|------------------------------|--------------------|----------------|------------------------------|
| <b>CAPACITORS</b>                                  |                |                              |                    |                |                              |
| <b>U001 PIF. SELECTOR POWER 2 PW UNIT 70194010</b> |                |                              | C125               | 24436471       | CD, 470pF                    |
| C001, C002   | 24232103       | CD, 0.01 $\mu$ F, +80%, -20% | C126               | 24636010       | EL, 1 $\mu$ F, 50V           |
| C003, C004   |                |                              | C127               | 24436241       | CD, 240pF                    |
| C005   | 24232102       | CD, 1000pF, +80%, -20%       | C128               | 24436560       | CD, 56pF                     |
| C006   | 24636478       | EL, 0.47 $\mu$ F, 50V        | C129               | 24232103       | CD, 0.01 $\mu$ F, +80%, -20% |
| C007, C008   | 24436020       | CD, 2pF, $\pm 0.25\%$        | C201               | 24633220       | EL, 22 $\mu$ F, 16V          |
| C009   | 24436120       | CD, 12pF                     | C203               | 24436821       | CD, 820pF                    |
| C010   | 24633470       | EL, 47 $\mu$ F, 16V          | C204               | 24633100       | EL, 10 $\mu$ F, 16V          |
| C011   | 24232103       | CD, 0.01 $\mu$ F, +80%, -20% | C205               | 24636010       | EL, 1 $\mu$ F, 50V           |
| C012, C013   | 24636339       | EL, 3.3 $\mu$ F, 50V         | C206               | 24632220       | EL, 22 $\mu$ F, 10V          |
| C014   | 24636479       | EL, 4.7 $\mu$ F, 50V         | C207               | 24436181       | CD, 180pF                    |
| C015   | 24633471       | EL, 470 $\mu$ F, 16V         | C208               | 24436150       | CD, 15pF                     |
| C016, C017   | 24436470       | CD, 47pF                     | C209               | 24353121       | CD, 120pF                    |
| C018   | 24232103       | CD, 0.01 $\mu$ F, +80%, -20% | C210               | 24436331       | CD, 330pF                    |
| C019   | 24636100       | EL, 10 $\mu$ F, 50V          | C211, C212         | 24232103       | CD, 0.01 $\mu$ F, +80%, -20% |
| C020   | 24340360       | CD, 36pF                     | C213               | 24632470       | EL, 47 $\mu$ F, 10V          |
| C021   | 71592682       | PF, 6800pF, $\pm 10\%$       | C214               | 24232103       | CD, 0.01 $\mu$ F, +80%, -20% |
| C022   | 24636100       | EL, 10 $\mu$ F, 50V          | C215               | 24632470       | EL, 47 $\mu$ F, 10V          |
| C023   | 24232103       | CD, 0.01 $\mu$ F, +80%, -20% | C216               | 24232103       | CD, 0.01 $\mu$ F, +80%, -20% |
| <b>U201 VIDEO &amp; AUDIO PW UNIT 70191943</b>     |                |                              | C217               | 24436391       | CD, 390pF                    |
| C101   | 24232103       | CD, 0.01 $\mu$ F, +80%, -20% | C218               | 24436151       | CD, 150pF                    |
| C103   | 24633470       | EL, 47 $\mu$ F, 16V          | C219               | 24232103       | CD, 0.01 $\mu$ F, +80%, -20% |
| C104   | 24232103       | CD, 0.01 $\mu$ F, +80%, -20% | C220               | 71591473       | PF, 0.047 $\mu$ F            |
| C107   | 24636010       | EL, 1 $\mu$ F, 50V           | C221               | 24632220       | EL, 22 $\mu$ F, 10V          |
| C108   | 24232103       | CD, 0.01 $\mu$ F, +80%, -20% | C222, C223         | 24538104       | PF, 0.1 $\mu$ F              |
| C109   | 24636010       | EL, 1 $\mu$ F, 50V           | C224               | 24636478       | EL, 0.47 $\mu$ F, 50V        |
| C110   | 24232103       | CD, 0.01 $\mu$ F, +80%, -20% | C225               | 24436390       | CD, 39pF                     |
| C111   | 24436101       | CD, 100pF                    | C226               | 24633100       | EL, 10 $\mu$ F, 16V          |
| C112   | 24232103       | CD, 0.01 $\mu$ F, +80%, -20% | C227               | 24633470       | EL, 47 $\mu$ F, 16V          |
| C113   | 24632220       | EL, 22 $\mu$ F, 10V          | C228               | 24232103       | CD, 0.01 $\mu$ F, +80%, -20% |
| C114   | 24232103       | CD, 0.01 $\mu$ F, +80%, -20% | C229               | 24632101       | EL, 100 $\mu$ F, 10V         |
| C115   | 24632470       | EL, 47 $\mu$ F, 10V          | C230               | 24632470       | EL, 47 $\mu$ F, 10V          |
| C116   | 24232103       | CD, 0.01 $\mu$ F, +80%, -20% | C231               | 24632101       | EL, 100 $\mu$ F, 10V         |
| C117   | 24436331       | CD, 330pF                    | C232               | 24631471       | EL, 470 $\mu$ F, 6.3V        |
| C118, C119   | 24232103       | CD, 0.01 $\mu$ F, +80%, -20% | C233               | 24436510       | CD, 51pF                     |
| C120   | 24632220       | EL, 22 $\mu$ F, 10V          | C234               | 24212102       | CD, 1000pF, $\pm 10\%$       |
| C121, C122   | 24232103       | CD, 0.01 $\mu$ F, +80%, -20% | C235               | 24538274       | PF, 0.27 $\mu$ F             |
| C123, C124   |                |                              | C236               | 24632470       | EL, 47 $\mu$ F, 10V          |
|  |                |                              | C237               | 71591223       | PF, 0.022 $\mu$ F            |
|  |                |                              | C238               | 24632220       | EL, 22 $\mu$ F, 10V          |

| LOCATION<br>NUMBER | PART<br>NUMBER | DESCRIPTION                   |
|--------------------|----------------|-------------------------------|
| C239               | 24436680       | CD, 68pF                      |
| C240               | 24436820       | CD, 82pF                      |
| C241               | 24631221       | EL, 220 $\mu$ F, 6.3V         |
| C242               | 24632220       | EL, 22 $\mu$ F, 10V           |
| C243               | 24436390       | CD, 39pF                      |
| C244               | 24436821       | CD, 820pF                     |
| C245               | 24436181       | CD, 180pF                     |
| C246               | 24232103       | CD, 0.01 $\mu$ F, +80%, -20%  |
| C247               | 24436271       | CD, 270pF                     |
| C248               | 24633470       | EL, 47 $\mu$ F, 16V           |
| C249               | 24232103       | CD, 0.01 $\mu$ F, +80%, -20%  |
| C261               | 24436150       | CD, 15pF                      |
| C262               | 24633100       | EL, 10 $\mu$ F, 16V           |
| C267               | 24232103       | CD, 0.01 $\mu$ F, +80%, -20%  |
| C301               | 24636010       | EL, 1 $\mu$ F, 50V            |
| C302               | 24598511       | PF, 510pF                     |
| C304               | 24436201       | CD, 200pF                     |
| C305               | 24636478       | EL, 0.47 $\mu$ F, 50V         |
| C306               | 71591122       | PF, 1200pF                    |
| C307               | 24436331       | CD, 330pF                     |
| C308               | 71591393       | PF, 0.039 $\mu$ F             |
| C309               | 24436511       | CD, 510pF                     |
| C311               | 71591152       | PF, 1500pF                    |
| C312               | 71591122       | PF, 1200pF                    |
| C313               | 24632470       | EL, 47 $\mu$ F, 10V           |
| C315               | 24632220       | EL, 22 $\mu$ F, 10V           |
| C401, C402         | 24232103       | CD, 0.01 $\mu$ F, +80%, -20%  |
| C403               | 71591473       | PF, 0.047 $\mu$ F             |
| C404               | 24436101       | CD, 100pF                     |
| C405               | 24632470       | EL, 47 $\mu$ F, 10V           |
| C407               | 24436200       | CD, 20pF                      |
| C408               | 24436101       | CD, 100pF                     |
| C409               | 24436331       | CD, 330pF                     |
| C410               | 24436101       | CD, 100pF                     |
| C411               | 24636010       | EL, 1 $\mu$ F, 50V            |
| C412               | 24232103       | CD, 0.01 $\mu$ F, +80%, -20%  |
| C413               | 24436560       | CD, 56pF                      |
| C414               | 24232223       | CD, 0.022 $\mu$ F, +80%, -20% |
| C415               | 24636479       | EL, 4.7 $\mu$ F, 50V          |
| C416               | 71591392       | PF, 3900pF                    |
| C417               | 24636010       | EL, 1 $\mu$ F, 50V            |
| C418               | 24356390       | CD, 39pF                      |
| C419               | 24232223       | CD, 0.022 $\mu$ F, +80%, -20% |
| C420               | 71591223       | PF, 0.022 $\mu$ F             |
| C421, C422         | 24636010       | EL, 1 $\mu$ F, 50V            |
| C423               | 24232103       | CD, 0.01 $\mu$ F, +80%, -20%  |
| C424               | 24436101       | CD, 100pF                     |
| C425, C426         | 24232103       | CD, 0.01 $\mu$ F, +80%, -20%  |
| C427               | 24634100       | EL, 10 $\mu$ F, 25V           |
| C428               | 24636010       | EL, 1 $\mu$ F, 50V            |
| C429               | 24436101       | CD, 100pF                     |
| C430               | 24634100       | EL, 10 $\mu$ F, 25V           |
| C431               | 24436560       | CD, 56pF                      |

| LOCATION<br>NUMBER                             | PART<br>NUMBER | DESCRIPTION                   |
|--|----------------|-------------------------------|
| C432   | 24436241       | CD, 240pF                     |
| C433   | 71591104       | PF, 0.1 $\mu$ F               |
| C434   | 24353470       | CD, 47pF                      |
| C435   | 24353160       | CD, 16pF                      |
| C436, C437                                     | 24353680       | CD, 68pF                      |
| C438   | 24632470       | EL, 47 $\mu$ F, 10V           |
| C439   | 24232223       | CD, 0.022 $\mu$ F, +80%, -20% |
| C440   | 24632470       | EL, 47 $\mu$ F, 10V           |
| C442   | 24436620       | CD, 62pF                      |
| C443   | 24436360       | CD, 36pF                      |
| C444, C445                                     | 24232103       | CD, 0.01 $\mu$ F, +80%, -20%  |
| C446   |                |                               |
| C447   | 24436560       | CD, 56pF                      |
| C448   | 24436511       | CD, 510pF                     |
| C449   | 24232103       | CD, 0.01 $\mu$ F, +80%, -20%  |
| C451   | 70417014       | Trimmer, 8P                   |
| C461, C462                                     | 24232103       | CD, 0.01 $\mu$ F, +80%, -20%  |
| C464   | 71591122       | PF, 1200pF                    |
| C465   | 24212102       | CD, 1000pF, $\pm$ 10%         |
| C466   | 24636339       | EL, 3.3 $\mu$ F, 50V          |
| C467   | 24212332       | CD, 3300pF, $\pm$ 10%         |
| C468   | 24436680       | CD, 68pF                      |
| C469, C470                                     | 24232103       | CD, 0.01 $\mu$ F, +80%, -20%  |
| C471   |                |                               |
| C472   | 24633100       | EL, 10 $\mu$ F, 16V           |
| C473   | 24436331       | CD, 330pF                     |
| <b>U501 SERVO &amp; LOGIC PW UNIT 70191985</b> |                |                               |
| C501, C502                                     | 24632470       | EL, 47 $\mu$ F, 10V           |
| C503   | 24436101       | CD, 100pF                     |
| C507   | 24436221       | CD, 220pF                     |
| C508, C509                                     | 71591562       | PF, 5600pF                    |
| C510, C511                                     | 71591272       | PF, 2700pF                    |
| C512   | 71591393       | PF, 0.039 $\mu$ F             |
| C513   | 24636010       | EL, 1 $\mu$ F, 50V            |
| C514, C515                                     | 24633220       | EL, 22 $\mu$ F, 16V           |
| C516   | 24633100       | EL, 10 $\mu$ F, 16V           |
| C517   | 24633220       | EL, 22 $\mu$ F, 16V           |
| C518, C519                                     | 71591103       | PF, 0.01 $\mu$ F              |
| C520, C521                                     | 24340471       | CD, 470pF                     |
| C522   | 24353390       | CD, 39pF                      |
| C523   | 71591103       | PF, 0.01 $\mu$ F              |
| C524   | 24356151       | CD, 150pF                     |
| C525   | 24356300       | CD, 30pF                      |
| C526, C527                                     | 71591103       | PF, 0.01 $\mu$ F              |
| C528   | 24232103       | CD, 0.01 $\mu$ F, +80%, -20%  |
| C529   | 24633220       | EL, 22 $\mu$ F, 16V           |
| C530   | 24636229       | EL, 2.2 $\mu$ F, 50V          |
| C531   | 24232103       | CD, 0.01 $\mu$ F, +80%, -20%  |
| C532, C533                                     | 24632470       | EL, 47 $\mu$ F, 10V           |
| C534   | 24232103       | CD, 0.01 $\mu$ F, +80%, -20%  |
| C535   | 24633100       | EL, 10 $\mu$ F, 16V           |
| C536   | 71591103       | PF, 0.01 $\mu$ F              |



| LOCATION<br>NUMBER                             | PART<br>NUMBER | DESCRIPTION                   |
|--|----------------|-------------------------------|
| C537   | 24636229       | EL, 2.2 $\mu$ F, 50V          |
| C538   | 71591103       | PF, 0.01 $\mu$ F              |
| C539   | 71591102       | PF, 1000pF                    |
| C540   | 24232103       | CD, 0.01 $\mu$ F, +80%, -20%  |
| C541   | 24085023       | EL, 10 $\mu$ F, 16V           |
| C542   | 24232103       | CD, 0.01 $\mu$ F, +80%, -20%  |
| C601   | 24632470       | EL, 47 $\mu$ F, 10V           |
| C602   | 24232103       | CD, 0.01 $\mu$ F, +80%, -20%  |
| C603   | 24632101       | EL, 100 $\mu$ F, 10V          |
| C604   | 24632470       | EL, 47 $\mu$ F, 10V           |
| C605   | 24634101       | EL, 100 $\mu$ F, 25V          |
| C607   | 24436101       | CD, 100pF                     |
| C608   | 24436101       | CD, 100pF                     |
| C610   | 24232103       | CD, 0.01 $\mu$ F, +80%, -20%  |
| C611   | 24867392       | PF, 3900pF                    |
| C612   | 71593223       | PF, 0.022 $\mu$ F             |
| C613   | 24867392       | PF, 3900pF                    |
| C614   | 71593223       | PF, 0.022 $\mu$ F             |
| C615   | 24232223       | CD, 0.022 $\mu$ F, +80%, -20% |
| C616   | 24632220       | EL, 22 $\mu$ F, 10V           |
| C617   | 24636229       | EL, 2.2 $\mu$ F, 50V          |
| C618   | 24632470       | EL, 47 $\mu$ F, 10V           |
| C619, C620                                     | 24232103       | CD, 0.01 $\mu$ F, +80%, -20%  |
| C630   | 24632220       | EL, 22 $\mu$ F, 10V           |
| C631   | 24232103       | CD, 0.01 $\mu$ F, +80%, -20%  |
| C633   | 71592333       | PF, 0.033 $\mu$ F, $\pm$ 10%  |
| C634   | 24636229       | EL, 2.2 $\mu$ F, 50V          |
| C640   | 24632470       | EL, 47 $\mu$ F, 10V           |
| C642   | 71591682       | PF, 6800pF                    |
| C643   | 24232103       | CD, 0.01 $\mu$ F, +80%, -20%  |
| C644   | 24632470       | EL, 47 $\mu$ F, 10V           |
| C645   | 24212221       | CD, 220pF, $\pm$ 10%          |
| C646   | 71592272       | PF, 2700pF, $\pm$ 10%         |
| C647, C648                                     | 24436101       | CD, 100pF                     |
| C649   | 24632470       | EL, 47 $\mu$ F, 10V           |
| C650   | 24632220       | EL, 22 $\mu$ F, 10V           |
| C661   | 24633100       | EL, 10 $\mu$ F, 16V           |
| <b>U201 VIDEO &amp; AUDIO PW UNIT 70194008</b> |                |                               |
| C701   | 24633100       | EL, 10 $\mu$ F, 16V           |
| C702   | 24212152       | CD, 1500pF, $\pm$ 10%         |
| C703   | 24633101       | EL, 100 $\mu$ F, 16V          |
| C704   | 24633100       | EL, 10 $\mu$ F, 16V           |
| C705   | 24432101       | CD, 100pF, $\pm$ 10%          |
| C706   | 71591273       | PF, 0.027 $\mu$ F             |
| C708   | 24632101       | EL, 100 $\mu$ F, 10V          |
| C709   | 24636478       | EL, 0.47 $\mu$ F, 50V         |
| C710   | 24633100       | EL, 10 $\mu$ F, 16V           |
| C711   | 24635479       | EL, 4.7 $\mu$ F, 35V          |
| C712   | 24633220       | EL, 22 $\mu$ F, 16V           |
| C713   | 24212562       | CD, 5600pF, $\pm$ 10%         |
| C714   | 24636478       | EL, 0.47 $\mu$ F, 50V         |
| C715   | 24212102       | CD, 1000pF, $\pm$ 10%         |
| C716   | 24635479       | EL, 4.7 $\mu$ F, 35V          |
| C717   | 24432101       | CD, 100pF, $\pm$ 10%          |

| LOCATION<br>NUMBER                                     | PART<br>NUMBER | DESCRIPTION                         |
|--|----------------|-------------------------------------|
| C718   | 24635339       | EL, 3.3 $\mu$ F, 35V                |
| C719   | 24212821       | CD, 820pF, $\pm$ 10%                |
| C720, C721   | 24633100       | EL, 10 $\mu$ F, 16V                 |
| C722   | 24633221       | EL, 220 $\mu$ F, 16V                |
| C724   | 24635479       | EL, 4.7 $\mu$ F, 35V                |
| C725   | 24212102       | CD, 1000pF, $\pm$ 10%               |
| C726   | 24867682       | PF, 6800pF                          |
| C727   | 24633470       | EL, 47 $\mu$ F, 16V                 |
| C728   | 24212472       | CD, 4700pF, $\pm$ 10%               |
| C729   | 24214221       | CD, 220pF, $\pm$ 10%, 500V          |
| C730   | 24538124       | PF, 0.12 $\mu$ F                    |
| C731   | 24232103       | CD, 0.01 $\mu$ F, +80%, -20%        |
| <b>U801 POWER 1 PW UNIT 70191945</b>                   |                |                                     |
| C801   | 24098011       | MF, 0.1 $\mu$ F, $\pm$ 20%, AC 250V |
| C802, C803   | } 24232103     | CD, 0.01 $\mu$ F, +80%, -20%        |
| C804, C805   |                |                                     |
| C806   | 70415069       | EL, 6800 $\mu$ F, 35V               |
| C807   | 24634220       | EL, 22 $\mu$ F, 25V                 |
| C808   | 24232103       | CD, 0.01 $\mu$ F, +80%, -20%        |
| C809   | 24633100       | EL, 10 $\mu$ F, 16V                 |
| C810   | 24634100       | EL, 10 $\mu$ F, 25V                 |
| C811   | 24633100       | EL, 10 $\mu$ F, 16V                 |
| C812   | 24633102       | EL, 1000 $\mu$ F, 16V               |
| C813   | 24633222       | EL, 2200 $\mu$ F, 16V               |
| C814   | 24633100       | EL, 10 $\mu$ F, 16V                 |
| C815, C816   | 24641100       | EL, 10 $\mu$ F, 100V                |
| C817, C818   | 71591104       | PF, 0.1 $\mu$ F                     |
| <b>U001 PIF. SELECTOR POWER 2 PW UNIT 70194010</b>     |                |                                     |
| C861   | 24641101       | EL, 100 $\mu$ F, 100V               |
| C863, C864   | 24641100       | EL, 10 $\mu$ F, 100V                |
| C865   | 24641101       | EL, 100 $\mu$ F, 100V               |
| C866   | 24636101       | EL, 100 $\mu$ F, 50V                |
| CA01   | 24232103       | CD, 0.01 $\mu$ F, +80%, -20%        |
| CA02   | 24636100       | EL, 10 $\mu$ F, 50V                 |
| CA03, CA04   | 24636478       | EL, 0.47 $\mu$ F, 50V               |
| CA05   | 24636229       | EL, 2.2 $\mu$ F, 50V                |
| CA06, CA07   | } 24232103     | CD, 0.01 $\mu$ F, +80%, -20%        |
| CA08   |                |                                     |
| CA09   | 71591333       | PF, 0.033 $\mu$ F                   |
| CA10   | 24633220       | EL, 22 $\mu$ F, 16V                 |
| CA11   | 71591103       | PF, 0.01 $\mu$ F                    |
| <b>UX02 REMOTE CONTROL SWITCH PW UNIT 70194011</b>     |                |                                     |
| CL12   | 24632470       | EL, 47 $\mu$ F, 10V                 |
| <b>UX01 TIMER &amp; LOGIC CONTROL PW UNIT 70191986</b> |                |                                     |
| CR01   | 70435229       | EL, 2.2 $\mu$ F, 50V                |
| CR02   | 24212821       | CD, 820pF, $\pm$ 10%                |
| CR03   | 70435478       | EL, 0.47 $\mu$ F, 50V               |
| CR04   | 24212681       | CD, 680pF, $\pm$ 10%                |
| CR05   | 24634100       | EL, 10 $\mu$ F, 25V                 |

| LOCATION<br>NUMBER   | PART<br>NUMBER | DESCRIPTION                   |
|--|----------------|-------------------------------|
| <b>UX02 REMOTE CONTROL SWITCH PW UNIT<br/>70194011</b>     |                |                               |
| CR62, CR63   | 24212102       | CD, 1000pF, $\pm 10\%$        |
| CR64   | 24538104       | PF, 0.1 $\mu$ F               |
| CR65   | 24598102       | PF, 1000pF                    |
| CR66   | 24538223       | PF, 0.022 $\mu$ F             |
| CR67   | 24636010       | EL, 1 $\mu$ F, 50V            |
| <b>UX01 TIMER &amp; LOGIC CONTROL PW UNIT<br/>70191986</b> |                |                               |
| CX01   | 24632470       | EL, 47 $\mu$ F, 10V           |
| CX02, CX03   | 24436101       | CD, 100pF                     |
| CX04   | 24232103       | CD, 0.01 $\mu$ F, +80%, -20%  |
| CX05   | 24232223       | CD, 0.022 $\mu$ F, +80%, -20% |
| CX06   | 24232103       | CD, 0.01 $\mu$ F, +80%, -20%  |
| <b>UX02 REMOTE CONTROL SWITCH PW UNIT<br/>70194011</b>     |                |                               |
| CX81   | 24634470       | EL, 47 $\mu$ F, 25V           |
| CX82   | 24633100       | EL, 10 $\mu$ F, 16V           |
| CX83   | 24632331       | EL, 330 $\mu$ F, 10V          |
| CX84   | 24232103       | CD, 0.01 $\mu$ F, +80%, -20%  |
| <b>RESISTORS</b>   |                |                               |
| <b>U001 PIF. SELECTOR POWER 2 PW UNIT 70194010</b>         |                |                               |
| R001   | 24360101       | CF, 100 ohm                   |
| R002   | 24360301       | CF, 300 ohm                   |
| R003   | 24360562       | CF, 5.6k ohm                  |
| R004   | 24360471       | CF, 470 ohm                   |
| R005   | 24360102       | CF, 1k ohm                    |
| R006   | 24360270       | CF, 27 ohm                    |
| R007   | 24360821       | CF, 820 ohm                   |
| R008   | 24360392       | CF, 3.9k ohm                  |
| R009   | 24360683       | CF, 68k ohm                   |
| R010   | 24360221       | CF, 220 ohm                   |
| R011   | 24360824       | CF, 820k ohm                  |
| R012   | 24360152       | CF, 1.5k ohm                  |
| R013   | 24360511       | CF, 510 ohm                   |
| R014   | 24360681       | CF, 680 ohm                   |
| R015   | 24360102       | CF, 1k ohm                    |
| R016   | 24941821       | CC, 820 ohm, 1/4W             |
| R017, R018   | 24360102       | CF, 1k ohm                    |
| R019   | 24360153       | CF, 15k ohm                   |
| R020   | 24360242       | CF, 2.4k ohm                  |
| R021   | 24360182       | CF, 1.8k ohm                  |
| R022, R023   | 24360104       | CF, 100k ohm                  |
| R024   | 24360474       | CF, 470k ohm                  |
| R025   | 24360103       | CF, 10k ohm                   |
| R026   | 24360563       | CF, 56k ohm                   |
| R027   | 24360103       | CF, 10k ohm                   |
| R028   | 24360563       | CF, 56k ohm                   |
| R029   | 24360103       | CF, 10k ohm                   |
| R030   | 24360363       | CF, 36k ohm                   |
| R031   | 24360154       | CF, 150k ohm                  |

| LOCATION<br>NUMBER                             | PART<br>NUMBER | DESCRIPTION            |
|--|----------------|------------------------|
| R032   | 24360103       | CF, 10k ohm            |
| R033   | 24360563       | CF, 56k ohm            |
| R051   | 24061149       | VR, 330k ohm, 0.15W    |
| R052   | 24061138       | VR, 4.7k ohm, 0.15W    |
| R064   | 24360105       | CF, 1M ohm             |
| <b>U201 VIDEO &amp; AUDIO PW UNIT 70191943</b> |                |                        |
| R101, R102                                     | 24360620       | CF, 62 ohm             |
| R103   | 24360681       | CF, 680 ohm            |
| R104   | 24360301       | CF, 300 ohm            |
| R105   | 24360472       | CF, 4.7k ohm           |
| R106   | 24360102       | CF, 1k ohm             |
| R107   | 24360133       | CF, 13k ohm            |
| R108   | 24360393       | CF, 39k ohm            |
| R109   | 24360471       | CF, 470 ohm            |
| R110   | 24360332       | CF, 3.3k ohm           |
| R111, R112                                     | 24360433       | CF, 43k ohm            |
| R113   | 24360102       | CF, 1k ohm             |
| R114, R115                                     | 24360104       | CF, 100k ohm           |
| R116, R117                                     |                |                        |
| R118, R119                                     | 24360182       | CF, 1.8k ohm           |
| R120   | 24360332       | CF, 3.3k ohm           |
| R121, R122                                     | 24360152       | CF, 1.5k ohm           |
| R123   | 24360471       | CF, 470 ohm            |
| R124   | 24360103       | CF, 10k ohm            |
| R125   | 24360333       | CF, 33k ohm            |
| R126   | 24360122       | CF, 1.2k ohm           |
| R127   | 24360132       | CF, 1.3k ohm           |
| R128   | 24360821       | CF, 820 ohm            |
| R129, R130                                     | 24360102       | CF, 1k ohm             |
| R131   | 24360681       | CF, 680 ohm            |
| R132   | 24360391       | CF, 390 ohm            |
| R133   | 24360821       | CF, 820 ohm            |
| R134   | 24360223       | CF, 22k ohm            |
| R135   | 24360103       | CF, 10k ohm            |
| R136   | 24360681       | CF, 680 ohm            |
| R137   | 24360331       | CF, 330 ohm            |
| R138, R139                                     | 24360103       | CF, 10k ohm            |
| R140   | 24360223       | CF, 22k ohm            |
| R141   | 24360102       | CF, 1k ohm             |
| R142   | 24360243       | CF, 24k ohm            |
| R143   | 24360153       | CF, 15k ohm            |
| R144   | 24360152       | CF, 1.5k ohm           |
| R145   | 24360101       | CF, 100 ohm            |
| R151, R152                                     | 70421198       | VR, 2.2k ohm, 0.1W     |
| R201   | 24360274       | CF, 270k ohm           |
| R202   | 24360152       | CF, 1.5k ohm           |
| R203   | 24360121       | CF, 120 ohm            |
| R204   | 24360622       | CF, 6.2k ohm           |
| R205   | 24360271       | CF, 270 ohm            |
| R206   | 24360152       | CF, 1.5k ohm           |
| R207   | 24360182       | CF, 1.8k ohm           |
| R208   | 24360160       | CF, 16 ohm             |
| R209   | 24360153       | CF, 15k ohm            |
| R210   | 24378223       | CF, 22k ohm, $\pm 2\%$ |

| LOCATION<br>NUMBER | PART<br>NUMBER | DESCRIPTION             |
|--------------------|----------------|-------------------------|
| R211               | 24360302       | CF, 3k ohm              |
| R212               | 24378912       | CF, 9.1k ohm, $\pm 2\%$ |
| R213               | 24378392       | CF, 3.9k ohm, $\pm 2\%$ |
| R214               | 24378242       | CF, 2.4k ohm, $\pm 2\%$ |
| R217, R218         | 24360273       | CF, 27k ohm             |
| R219               | 24360274       | CF, 270k ohm            |
| R220               | 24360101       | CF, 100 ohm             |
| R221               | 24360821       | CF, 820 ohm             |
| R222               | 24378241       | CF, 240 ohm, $\pm 2\%$  |
| R223               | 24360302       | CF, 3k ohm              |
| R224               | 24360471       | CF, 470 ohm             |
| R225               | 24360390       | CF, 39 ohm              |
| R226               | 24360182       | CF, 1.8k ohm            |
| R227               | 24360820       | CF, 82 ohm              |
| R228               | 24360390       | CF, 39 ohm              |
| R229               | 24360182       | CF, 1.8k ohm            |
| R230               | 24360243       | CF, 24k ohm             |
| R231               | 24360182       | CF, 1.8k ohm            |
| R232               | 24360274       | CF, 270k ohm            |
| R233               | 24360332       | CF, 3.3k ohm            |
| R234               | 24360102       | CF, 1k ohm              |
| R235               | 24360621       | CF, 620 ohm             |
| R236, R237         | 24378102       | CF, 1k ohm, $\pm 2\%$   |
| R238, R239         | 24360102       | CF, 1k ohm              |
| R240               | 24360622       | CF, 6.2k ohm            |
| R241               | 24360103       | CF, 10k ohm             |
| R242               | 24360472       | CF, 4.7k ohm            |
| R243               | 24360471       | CF, 470 ohm             |
| R244               | 24360102       | CF, 1k ohm              |
| R245               | 24360562       | CF, 5.6k ohm            |
| R246               | 24360101       | CF, 100 ohm             |
| R247               | 24360151       | CF, 150 ohm             |
| R248               | 24378680       | CF, 68 ohm, $\pm 2\%$   |
| R249               | 24378910       | CF, 91 ohm, $\pm 2\%$   |
| R251               | 70421199       | VR, 3.3k ohm, 0.1W      |
| R252               | 70421198       | VR, 2.2k ohm, 0.1W      |
| R253               | 70421199       | VR, 3.3k ohm, 0.1W      |
| R261               | 24360390       | CF, 39 ohm              |
| R262               | 24360222       | CF, 2.2k ohm            |
| R264               | 24360620       | CF, 62 ohm              |
| R265               | 24360203       | CF, 20k ohm             |
| R266               | 24360473       | CF, 47k ohm             |
| R267               | 24360914       | CF, 910k ohm            |
| R268               | 24360102       | CF, 1k ohm              |
| R269               | 24360473       | CF, 47k ohm             |
| R270               | 24360243       | CF, 24k ohm             |
| R271               | 24360332       | CF, 3.3k ohm            |
| R272               | 24360333       | CF, 33k ohm             |
| R273               | 24360133       | CF, 13k ohm             |
| R274, R275         | 24360561       | CF, 560 ohm             |
| R276               | 24360182       | CF, 1.8k ohm            |
| R277               | 24360102       | CF, 1k ohm              |
| R278               | 24360561       | CF, 560 ohm             |
| R279               | 24360911       | CF, 910 ohm             |
| R280               | 24360151       | CF, 150 ohm             |

| LOCATION<br>NUMBER       | PART<br>NUMBER | DESCRIPTION             |
|--------------------------|----------------|-------------------------|
| R281                     | 24360331       | CF, 330 ohm             |
| R282                     | 24378223       | CF, 22k ohm, $\pm 2\%$  |
| R283                     | 24378153       | CF, 15k ohm, $\pm 2\%$  |
| R284                     | 24378152       | CF, 1.5k ohm, $\pm 2\%$ |
| R285                     | 24378182       | CF, 1.8k ohm, $\pm 2\%$ |
| R286                     | 24360160       | CF, 16 ohm              |
| R287                     | 24360153       | CF, 15k ohm             |
| R288                     | 24360271       | CF, 270 ohm             |
| R289                     | 24360151       | CF, 150 ohm             |
| R290                     | 24360821       | CF, 820 ohm             |
| R291                     | 24360331       | CF, 330 ohm             |
| R292                     | 24360272       | CF, 2.7k ohm            |
| R293, R294               | 24360153       | CF, 15k ohm             |
| R295                     | 24378331       | CF, 330 ohm, $\pm 2\%$  |
| R296                     | 24378102       | CF, 1k ohm, $\pm 2\%$   |
| R297                     | 24378112       | CF, 1.1k ohm, $\pm 2\%$ |
| R298                     | 24360183       | CF, 18k ohm             |
| R299                     | 24360512       | CF, 5.1k ohm            |
| R300                     | 24360222       | CF, 2.2k ohm            |
| R301                     | 24378181       | CF, 180 ohm, $\pm 2\%$  |
| R302                     | 24360101       | CF, 100 ohm             |
| R303                     | 24360563       | CF, 56k ohm             |
| R304                     | 24360102       | CF, 1k ohm              |
| R305                     | 24360273       | CF, 27k ohm             |
| R309                     | 24360182       | CF, 1.8k ohm            |
| R310                     | 24360222       | CF, 2.2k ohm            |
| R311                     | 24360512       | CF, 5.1k ohm            |
| R312                     | 24360184       | CF, 180k ohm            |
| R313                     | 24360104       | CF, 100k ohm            |
| R314                     | 24360243       | CF, 24k ohm             |
| R315                     | 24360751       | CF, 750 ohm             |
| R316                     | 24360202       | CF, 2k ohm              |
| R317                     | 24360222       | CF, 2.2k ohm            |
| R319                     | 24360153       | CF, 15k ohm             |
| R320                     | 24360204       | CF, 200k ohm            |
| R401                     | 24360132       | CF, 1.3k ohm            |
| R402                     | 24360102       | CF, 1k ohm              |
| R403                     | 24360912       | CF, 9.1k ohm            |
| R404                     | 24360472       | CF, 4.7k ohm            |
| R405                     | 24360391       | CF, 390 ohm             |
| R406                     | 24360182       | CF, 1.8k ohm            |
| R407, R408<br>R409, R410 | 24360391       | CF, 390 ohm             |
| R411                     | 24360242       | CF, 2.4k ohm            |
| R412                     | 24360561       | CF, 560 ohm             |
| R413                     | 24360182       | CF, 1.8k ohm            |
| R414                     | 24360103       | CF, 10k ohm             |
| R415                     | 24378511       | CF, 510 ohm, $\pm 2\%$  |
| R416                     | 24378151       | CF, 150 ohm, $\pm 2\%$  |
| R417                     | 24360561       | CF, 560 ohm             |
| R418                     | 24360332       | CF, 3.3k ohm            |
| R419                     | 24360752       | CF, 7.5k ohm            |
| R420                     | 24360333       | CF, 33k ohm             |
| R421                     | 24378272       | CF, 2.7k ohm, $\pm 2\%$ |
| R422                     | 24360472       | CF, 4.7k ohm            |

| LOCATION<br>NUMBER   | PART<br>NUMBER | DESCRIPTION             |
|----------------------|----------------|-------------------------|
| R423                 | 24378152       | CF, 1.5k ohm, $\pm 2\%$ |
| R424                 | 24360914       | CF, 910k ohm            |
| R425                 | 24360512       | CF, 5.1k ohm            |
| R426                 | 24360333       | CF, 33k ohm             |
| R428                 | 24360332       | CF, 3.3k ohm            |
| R429                 | 24360102       | CF, 1k ohm              |
| R430                 | 24360911       | CF, 910 ohm             |
| R431                 | 24360152       | CF, 1.5k ohm            |
| R432                 | 24360561       | CF, 560 ohm             |
| R433                 | 24360332       | CF, 3.3k ohm            |
| R434                 | 24360511       | CF, 510 ohm             |
| R436                 | 24360132       | CF, 1.3k ohm            |
| R437                 | 24360511       | CF, 510 ohm             |
| R438                 | 24360751       | CF, 750 ohm             |
| R439                 | 24360203       | CF, 20k ohm             |
| R440                 | 24360221       | CF, 220 ohm             |
| R441                 | 24360391       | CF, 390 ohm             |
| R442                 | 24360363       | CF, 36k ohm             |
| R443                 | 24360202       | CF, 2k ohm              |
| R444                 | 24360333       | CF, 33k ohm             |
| R445                 | 24360102       | CF, 1k ohm              |
| R446                 | 24360334       | CF, 330k ohm            |
| R447                 | 24360562       | CF, 5.6k ohm            |
| R448                 | 24360334       | CF, 330k ohm            |
| R449                 | 24360105       | CF, 1M ohm              |
| R451                 | 70421202       | VR, 10k ohm, 0.1W       |
| R452                 | 70421199       | VR, 3.3k ohm, 0.1W      |
| R454                 | 70421202       | VR, 10k ohm, 0.1W       |
| R455                 | 70421203       | VR, 15k ohm, 0.1W       |
| R456                 | 70421202       | VR, 10k ohm, 0.1W       |
| R457                 | 70421193       | VR, 330 ohm, 0.1W       |
| R461                 | 24360244       | CF, 240k ohm            |
| R462                 | 24360332       | CF, 3.3k ohm            |
| R463                 | 24360472       | CF, 4.7k ohm            |
| R464                 | 24360473       | CF, 47k ohm             |
| R465                 | 24360392       | CF, 3.9k ohm            |
| R466, R467 }<br>R468 | 24360103       | CF, 10k ohm             |
| R469                 | 24360752       | CF, 7.5k ohm            |
| R470                 | 24360332       | CF, 3.3k ohm            |
| R472                 | 24360182       | CF, 1.8k ohm            |
| R473                 | 24360754       | CF, 750k ohm            |
| R474                 | 24360152       | CF, 1.5k ohm            |
| R475                 | 24360182       | CF, 1.8k ohm            |
| R476                 | 24360122       | CF, 1.2k ohm            |
| R477                 | 24360102       | CF, 1k ohm              |
| R478, R479           | 24360103       | CF, 10k ohm             |
| R480                 | 24360102       | CF, 1k ohm              |
| R481                 | 24360223       | CF, 22k ohm             |
| R482                 | 24360103       | CF, 10k ohm             |
| R483, R484           | 24360154       | CF, 150k ohm            |
| R487                 | 24360682       | CF, 6.8k ohm            |

| LOCATION<br>NUMBER                             | PART<br>NUMBER | DESCRIPTION        |
|--|----------------|--------------------|
| <b>U501 SERVO &amp; LOGIC PW UNIT 70191985</b> |                |                    |
| R501   | 24360122       | CF, 1.2k ohm       |
| R502   | 24360911       | CF, 910 ohm        |
| R503   | 24360432       | CF, 4.3k ohm       |
| R504   | 24360102       | CF, 1k ohm         |
| R505   | 24360103       | CF, 10k ohm        |
| R506   | 24360104       | CF, 100k ohm       |
| R507, R508                                     | 24360223       | CF, 22k ohm        |
| R515   | 24360392       | CF, 3.9k ohm       |
| R518   | 24360823       | CF, 82k ohm        |
| R519   | 24360103       | CF, 10k ohm        |
| R520, R521                                     | 24360683       | CF, 68k ohm        |
| R522   | 24360474       | CF, 470k ohm       |
| R523   | 24360473       | CF, 47k ohm        |
| R524   | 24360474       | CF, 470k ohm       |
| R525   | 24360473       | CF, 47k ohm        |
| R526   | 24360272       | CF, 2.7k ohm       |
| R527   | 24360912       | CF, 9.1k ohm       |
| R528, R529                                     | 24360472       | CF, 4.7k ohm       |
| R530, R531                                     | 24360104       | CF, 100k ohm       |
| R532   | 24360472       | CF, 4.7k ohm       |
| R533   | 24360101       | CF, 100 ohm        |
| R534   | 24360223       | CF, 22k ohm        |
| R535   | 24360472       | CF, 4.7k ohm       |
| R536   | 24360333       | CF, 33k ohm        |
| R537   | 24360103       | CF, 10k ohm        |
| R538   | 24360473       | CF, 47k ohm        |
| R539   | 24360332       | CF, 3.3k ohm       |
| R540   | 24360105       | CF, 1M ohm         |
| R541   | 24360102       | CF, 1k ohm         |
| R542, R543                                     | 24360682       | CF, 6.8k ohm       |
| R544   | 24360474       | CF, 470k ohm       |
| R545   | 24360183       | CF, 18k ohm        |
| R546   | 24360123       | CF, 12k ohm        |
| R547   | 24360103       | CF, 10k ohm        |
| R548   | 24360123       | CF, 12k ohm        |
| R549   | 24360183       | CF, 18k ohm        |
| <b>U201 VIDEO &amp; AUDIO PW UNIT 70191943</b> |                |                    |
| R550   | 70421162       | VR, 500K ohm, 1/5W |
| <b>U501 SERVO &amp; LOGIC PW UNIT 70191985</b> |                |                    |
| R551, R552                                     | 70421238       | VR, 470k ohm, 0.1W |
| R553   | 70421237       | VR, 330k ohm, 0.1W |
| R560   | 24360684       | CF, 680k ohm       |
| R561   | 24360103       | CF, 10k ohm        |
| R562   | 24360105       | CF, 1M ohm         |
| R563   | 24360103       | CF, 10k ohm        |
| R564   | 24360122       | CF, 1.2k ohm       |
| R565   | 24360563       | CF, 56k ohm        |
| R566   | 24360471       | CF, 470 ohm        |
| R567   | 24360122       | CF, 1.2k ohm       |
| R568   | 24360393       | CF, 39k ohm        |
| R569   | 24360471       | CF, 470 ohm        |

| LOCATION<br>NUMBER                                   | PART<br>NUMBER | DESCRIPTION  |
|--|----------------|--------------|
| R570, R571<br>R572                                   | 24360183       | CF, 18k ohm  |
| R573   | 24360103       | CF, 10k ohm  |
| R574   | 24360183       | CF, 18k ohm  |
| R575   | 24360103       | CF, 10k ohm  |
| R576   | 24360393       | CF, 39k ohm  |
| R577   | 24360104       | CF, 100k ohm |
| R578   | 24360473       | CF, 47k ohm  |
| R579   | 24360472       | CF, 4.7k ohm |
| R580, R581<br>R582, R583<br>R584                     | 24360104       | CF, 100k ohm |
| R585   | 24360154       | CF, 150k ohm |
| R586   | 24360823       | CF, 82k ohm  |
| R587   | 24360224       | CF, 220k ohm |
| R588   | 24360153       | CF, 15k ohm  |
| R589   | 24360823       | CF, 82k ohm  |
| R590   | 24360183       | CF, 18k ohm  |
| R591   | 24360474       | CF, 470k ohm |
| R592   | 24360104       | CF, 100k ohm |
| R593   | 24360122       | CF, 1.2k ohm |
| R594   | 24360224       | CF, 220k ohm |
| R595, R596   | 24360104       | CF, 100k ohm |
| R597, R598   | 24360123       | CF, 12k ohm  |
| R599   | 24360473       | CF, 47k ohm  |
| R601   | 24360153       | CF, 15k ohm  |
| R602   | 24360332       | CF, 3.3k ohm |
| R603   | 24360682       | CF, 6.8k ohm |
| R604   | 24360153       | CF, 15k ohm  |
| R605   | 24360332       | CF, 3.3k ohm |
| R606   | 24360682       | CF, 6.8k ohm |
| R607, R608<br>R609                                   | 24360223       | CF, 22k ohm  |
| R610   | 24360154       | CF, 150k ohm |
| R611   | 24360102       | CF, 1k ohm   |
| R613   | 24360103       | CF, 10k ohm  |
| R614   | 24360823       | CF, 82k ohm  |
| R615   | 24360103       | CF, 10k ohm  |
| R617   | 24360104       | CF, 100k ohm |
| R618   | 24360223       | CF, 22k ohm  |
| R620   | 24360821       | CF, 820 ohm  |
| R621, R623<br>R624, R625<br>R626, R627<br>R628, R629 | 24360102       | CF, 1k ohm   |
| R631, R632<br>R633, R634                             | 24360472       | CF, 4.7k ohm |
| R635   | 24360183       | CF, 18k ohm  |
| R638   | 24360473       | CF, 47k ohm  |
| R641, R642   | 24360823       | CF, 82k ohm  |
| R643   | 24360103       | CF, 10k ohm  |
| R644   | 24360102       | CF, 1k ohm   |
| R645   | 24360121       | CF, 120 ohm  |

| LOCATION<br>NUMBER                             | PART<br>NUMBER | DESCRIPTION  |
|--|----------------|--------------|
| R646, R647<br>R648, R649                       | 24360473       | CF, 47k ohm  |
| R651, R652                                     | 70421243       | VR, 1k ohm   |
| R660   | 24360472       | CF, 4.7k ohm |
| R661   | 24360103       | CF, 10k ohm  |
| R662   | 24360222       | CF, 2.2k ohm |
| R663, R664                                     | 24360103       | CF, 10k ohm  |
| R665   | 24360472       | CF, 4.7k ohm |
| R666   | 24360103       | CF, 10k ohm  |
| R667   | 24360681       | CF, 680 ohm  |
| R671   | 24360221       | CF, 220 ohm  |
| R672, R673                                     | 24360103       | CF, 10k ohm  |
| R674   | 24360221       | CF, 220 ohm  |
| R678   | 24360101       | CF, 100 ohm  |
| R681   | 24360153       | CF, 15k ohm  |
| R682, R683<br>R684, R685<br>R686, R687<br>R688 | 24360103       | CF, 10k ohm  |
| R689   | 24360153       | CF, 15k ohm  |
| R690   | 24360223       | CF, 22k ohm  |
| R691   | 24360242       | CF, 2.4k ohm |
| R692   | 24360222       | CF, 2.2k ohm |
| R694   | 24360202       | CF, 2k ohm   |
| R696   | 24360103       | CF, 10k ohm  |
| R699   | 24360183       | CF, 18k ohm  |
| <b>U201 VIDEO &amp; AUDIO PW UNIT 70191943</b> |                |              |
| R702, R703                                     | 24360104       | CF, 100k ohm |
| R704, R705                                     | 24360752       | CF, 7.5k ohm |
| R706   | 24360202       | CF, 2k ohm   |
| R707   | 24360243       | CF, 24k ohm  |
| R708   | 24360154       | CF, 150k ohm |
| R709   | 24360124       | CF, 120k ohm |
| R710   | 24360562       | CF, 5.6k ohm |
| R713, R714                                     | 24360472       | CF, 4.7k ohm |
| R715   | 24360562       | CF, 5.6k ohm |
| R716   | 24360563       | CF, 56k ohm  |
| R717   | 24360472       | CF, 4.7k ohm |
| R718   | 24360473       | CF, 47k ohm  |
| R719   | 24360332       | CF, 3.3k ohm |
| R720   | 24360243       | CF, 24k ohm  |
| R722   | 24360103       | CF, 10k ohm  |
| R723   | 24360332       | CF, 3.3k ohm |
| R724   | 24360242       | CF, 2.4k ohm |
| R725   | 24360103       | CF, 10k ohm  |
| R726   | 24360912       | CF, 9.1k ohm |
| R727   | 24360682       | CF, 6.8k ohm |
| R729   | 24360332       | CF, 3.3k ohm |
| R731   | 24360153       | CF, 15k ohm  |
| R732   | 24360684       | CF, 680k ohm |
| R733   | 24360394       | CF, 390k ohm |

| LOCATION<br>NUMBER                                 | PART<br>NUMBER | DESCRIPTION            |
|--|----------------|------------------------|
| R735   | 24360102       | CF, 1k ohm             |
| R737   | 24360821       | CF, 820 ohm            |
| R738   | 24360334       | CF, 330k ohm           |
| R739   | 24360394       | CF, 390k ohm           |
| R740   | 24360105       | CF, 1M ohm             |
| R741   | 24360222       | CF, 2.2k ohm           |
| R742   | 24360272       | CF, 2.7k ohm           |
| R743   | 24360302       | CF, 3k ohm             |
| R744   | 24360752       | CF, 7.5k ohm           |
| R745   | 24360303       | CF, 30k ohm            |
| R752   | 70421200       | VR, 4.7K ohm, 0.1W     |
| R753   | 70421210       | VR, 220k ohm 0.1W      |
| R760   | 24360621       | CF, 620 ohm            |
| R761   | 24360229       | CF, 2.2 ohm            |
| R762   | 24360101       | CF, 100 ohm            |
| R763   | 24360153       | CF, 15k ohm            |
| R764   | 70420013       | Fusible, 4.7 ohm, 1/4W |
| R765   | 24360621       | CF, 620 ohm            |
| <b>U801 POWER 1 PW UNIT 70191945</b>               |                |                        |
| R801   | 24360221       | CF, 220 ohm            |
| R802   | 24360681       | CF, 680 ohm            |
| R803   | 24360152       | CF, 1.5k ohm           |
| R804   | 24360182       | CF, 1.8k ohm           |
| R805   | 24360152       | CF, 1.5k ohm           |
| R806   | 24531220       | Fusible, 22 ohm, 1/2W  |
| R807   | 24360471       | CF, 470 ohm            |
| R808   | 24360103       | CF, 10k ohm            |
| R809   | 24553392       | OMF, 3.9k ohm, 1W      |
| R810   | 24360333       | CF, 33k ohm            |
| R811   | 24360563       | CF, 56k ohm            |
| R812   | 24360103       | CF, 10k ohm            |
| R813   | 24552682       | OMF, 6.8k ohm, 1/2W    |
| R814   | 24360682       | CF, 6.8k ohm           |
| R815   | 24360242       | CF, 2.4k ohm           |
| R816   | 24360152       | CF, 1.5k ohm           |
| R817   | 24552151       | OMF, 150 ohm, 1/2W     |
| R818   | 24360152       | CF, 1.5k ohm           |
| R819   | 24360752       | CF, 7.5k ohm           |
| R820   | 24552682       | OMF, 6.8k ohm, 1/2W    |
| R821   | 24964151       | OMF, 150 ohm, 2W       |
| R822   | 24360272       | CF, 2.7k ohm           |
| R851   | 24061318       | VR, 1k ohm, 0.15W      |
| R852   | 24061322       | VR, 4.7k ohm, 0.15W    |
| <b>U001 PIF. SELECTOR POWER 2 PW UNIT 70194010</b> |                |                        |
| R861, R862   | } 24553822     | OMF, 8.2k ohm, 1W      |
| R863   |                |                        |
| R864   | 24553182       | OMF, 1.8k ohm, 1W      |
| R866, R867   | } 24553682     | OMF, 6.8k ohm, 1W      |
| R868   |                |                        |
| R869   | 24360103       | CF, 10k ohm            |
| R870, R871   | 24553472       | OMF, 4.7k ohm, 1W      |
| RA01   | 24360434       | CF, 430k ohm           |
| RA02   | 24360224       | CF, 220k ohm           |

| LOCATION<br>NUMBER                                     | PART<br>NUMBER | DESCRIPTION                       |
|--|----------------|-----------------------------------|
| RA03   | 24360823       | CF, 82k ohm                       |
| RA04   | 24360512       | CF, 5.1k ohm                      |
| RA05   | 24360563       | CF, 56k ohm                       |
| RA06   | 24360683       | CF, 68k ohm                       |
| RA07   | 24360163       | CF, 16k ohm                       |
| RA08   | 24360153       | CF, 15k ohm                       |
| RA09   | 24360242       | CF, 2.4k ohm                      |
| RA10   | 24360153       | CF, 15k ohm                       |
| RA11   | 24360563       | CF, 56k ohm                       |
| RA12   | 24360273       | CF, 27k ohm                       |
| RA13   | 24360152       | CF, 1.5k ohm                      |
| RA14   | 24360103       | CF, 10k ohm                       |
| RA15   | 24360243       | CF, 24k ohm                       |
| RA16   | 24360563       | CF, 56k ohm                       |
| RA17   | 24360243       | CF, 24k ohm                       |
| RA18   | 24360333       | CF, 33k ohm                       |
| RA19   | 24360102       | CF, 1k ohm                        |
| RA20   | 24360103       | CF, 10k ohm                       |
| RA21   | 24360243       | CF, 24k ohm                       |
| RA22   | 24360563       | CF, 56k ohm                       |
| RA23   | 24360243       | CF, 24k ohm                       |
| RA24   | 24941621       | CC, 620 ohm, 1/4W                 |
| RA25   | 24360123       | CF, 12k ohm                       |
| RA51   | 70421412       | Potentiometer, 20k ohm $\times$ 8 |
| <b>UX01 TIMER &amp; LOGIC CONTROL PW UNIT 70191986</b> |                |                                   |
| RA81, RA82<br>RA83, RA84                               | } 24360223     | CF, 22k ohm                       |
|  |                |                                   |
| <b>U501 SERVO &amp; LOGIC PW UNIT 70191985</b>         |                |                                   |
| RF01   | 24360104       | CF, 100k ohm                      |
| RF02   | 24360124       | CF, 120k ohm                      |
| RF03   | 24360103       | CF, 10k ohm                       |
| RF04   | 24360334       | CF, 330k ohm                      |
| RF05   | 24360332       | CF, 3.3k ohm                      |
| RF06   | 24360334       | CF, 330k ohm                      |
| RF07   | 24360682       | CF, 6.8k ohm                      |
| RF08   | 24360103       | CF, 10k ohm                       |
| RF09   | 24360154       | CF, 150k ohm                      |
| RF10   | 24360224       | CF, 220k ohm                      |
| RF11   | 24360153       | CF, 15k ohm                       |
| RF12, RF13   | 24360223       | CF, 22k ohm                       |
| RF14   | 24378222       | CF, 2.2k ohm, $\pm 2\%$           |
| RF15   | 24378182       | CF, 1.8k ohm, $\pm 2\%$           |
| RF16   | 24360224       | CF, 220k ohm                      |
| RF17   | 24360122       | CF, 1.2k ohm                      |
| RF18   | 24360562       | CF, 5.6k ohm                      |
| RF19   | 24360564       | CF, 560k ohm                      |
| RF20   | 24360122       | CF, 1.2k ohm                      |
| RF21   | 24360183       | CF, 18k ohm                       |
| RF22   | 24360102       | CF, 1k ohm                        |
| RF23   | 24360562       | CF, 5.6k ohm                      |
| RF24   | 24360123       | CF, 12k ohm                       |
| RF25   | 24360183       | CF, 18k ohm                       |

| LOCATION<br>NUMBER   | PART<br>NUMBER | DESCRIPTION         |
|--|----------------|---------------------|
| RF26   | 24360221       | CF, 220 ohm         |
| RF27   | 24360105       | CF, 1M ohm          |
| RF28   | 24360472       | CF, 4.7k ohm        |
| RF29   | 24360103       | CF, 10k ohm         |
| RF30   | 24360104       | CF, 100k ohm        |
| RF31   | 24360123       | CF, 12k ohm         |
| RF32   | 24360104       | CF, 100k ohm        |
| RF33   | 24360823       | CF, 82k ohm         |
| <b>UX01 TIMER &amp; LOGIC CONTROL PW UNIT<br/>70191986</b> |                |                     |
| RL01   | 24360271       | CF, 270 ohm         |
| RL02   | 24360223       | CF, 22k ohm         |
| RL03   | 24360331       | CF, 330 ohm         |
| RL04   | 24360223       | CF, 22k ohm         |
| RL05   | 24360511       | CF, 510 ohm         |
| RL06   | 24360331       | CF, 330 ohm         |
| RL07   | 24360361       | CF, 360 ohm         |
| <b>UX02 REMOTE CONTROL SWITCH PW UNIT<br/>70194011</b>     |                |                     |
| RL12   | 24360123       | CF, 12k ohm         |
| RL13   | 24360473       | CF, 47k ohm         |
| RL14   | 24360683       | CF, 68k ohm         |
| RL15   | 24360393       | CF, 39k ohm         |
| <b>U501 SERVO &amp; LOGIC PW UNIT 70191985</b>             |                |                     |
| RL21, RL22   | 24360102       | CF, 1k ohm          |
| RL23   | 24360103       | CF, 10k ohm         |
| RL24   | 24360102       | CF, 1k ohm          |
| RL26   | 24360241       | CF, 240 ohm         |
| RL61   | 24360272       | CF, 2.7k ohm        |
| RL62   | 24360392       | CF, 3.9k ohm        |
| RL63   | 24360103       | CF, 10k ohm         |
| RL67   | 24360472       | CF, 4.7k ohm        |
| RL69, RL71   | 24360223       | CF, 22k ohm         |
| RL72   | 24360103       | CF, 10k ohm         |
| RL73   | 24360273       | CF, 27k ohm         |
| RL75   | 24360243       | CF, 24k ohm         |
| RL76   | 24360104       | CF, 100k ohm        |
| RL84   | 24360223       | CF, 22k ohm         |
| RL85, RL86<br>RL87, RL88                                   | 24360472       | CF, 4.7k ohm        |
| RL91   | 24360122       | CF, 1.2k ohm        |
| RL92   | 24552272       | OMF, 2.7k ohm, 1/2W |
| RL93   | 24360473       | CF, 47k ohm         |
| RL94   | 24360104       | CF, 100k ohm        |
| RL95   | 24360102       | CF, 1k ohm          |
| RL96   | 24360103       | CF, 10k ohm         |
| RL97   | 24360104       | CF, 100k ohm        |
| RL98   | 24360473       | CF, 47k ohm         |
| RL99   | 24360102       | CF, 1k ohm          |
| <b>UX01 TIMER &amp; LOGIC CONTROL PW UNIT<br/>70191986</b> |                |                     |
| RR01   | 24360822       | CF, 8.2k ohm        |

| LOCATION<br>NUMBER   | PART<br>NUMBER | DESCRIPTION  |
|--|----------------|--------------|
| RR02   | 24360224       | CF, 220k ohm |
| RR03   | 24360683       | CF, 68k ohm  |
| RR04   | 24360104       | CF, 100k ohm |
| RR05, RR06   | 24360272       | CF, 2.7k ohm |
| RR07   | 24360331       | CF, 330 ohm  |
| RR08   | 24360472       | CF, 4.7k ohm |
| RR09   | 24360824       | CF, 820k ohm |
| RR10   | 24360102       | CF, 1k ohm   |
| <b>UX02 REMOTE CONTROL SWITCH PW UNIT<br/>70194011</b>     |                |              |
| RR64   | 24360824       | CF, 820k ohm |
| RR65   | 24360472       | CF, 4.7k ohm |
| RR66   | 24360823       | CF, 82k ohm  |
| RR67   | 24360183       | CF, 18k ohm  |
| RR68   | 24360102       | CF, 1k ohm   |
| RR69   | 24360391       | CF, 390 ohm  |
| RR70   | 24360103       | CF, 10k ohm  |
| RR71   | 24360333       | CF, 33k ohm  |
| RR72   | 24360472       | CF, 4.7k ohm |
| RR73   | 24360333       | CF, 33k ohm  |
| RR74   | 24360223       | CF, 22k ohm  |
| RR75   | 24360183       | CF, 18k ohm  |
| RR76   | 24360913       | CF, 91k ohm  |
| RR77, RR78   | 24360103       | CF, 10k ohm  |
| RR79, RR80<br>RR81, RR82<br>RR83, RR84                     | 24360223       | CF, 22k ohm  |
| <b>UX01 TIMER &amp; LOGIC CONTROL PW UNIT<br/>70191986</b> |                |              |
| RX01   | 24360104       | CF, 100k ohm |
| RX02   | 24360333       | CF, 33k ohm  |
| RX03   | 24360103       | CF, 10k ohm  |
| RX04, RX05   | 24360102       | CF, 1k ohm   |
| RX06   | 24360105       | CF, 1M ohm   |
| RX07   | 24360512       | CF, 5.1k ohm |
| RX09, RX10   | 24360102       | CF, 1k ohm   |
| RX11   | 24360822       | CF, 8.2k ohm |
| RX12   | 24360102       | CF, 1k ohm   |
| RX13   | 24360223       | CF, 22k ohm  |
| RX14   | 24360102       | CF, 1k ohm   |
| RX15   | 24360104       | CF, 100k ohm |
| RX16   | 24360103       | CF, 10k ohm  |
| <b>UX02 REMOTE CONTROL SWITCH PW UNIT<br/>70194011</b>     |                |              |
| RX81   | 24360911       | CF, 910 ohm  |
| RX82   | 24360131       | CF, 130 ohm  |
| RX83   | 24360332       | CF, 3.3k ohm |
| RX84   | 24360331       | CF, 330 ohm  |
| RX85   | 24360332       | CF, 3.3k ohm |
| RX86   | 24360103       | CF, 10k ohm  |
| RX87   | 24360271       | CF, 270 ohm  |
| RX88   | 24360752       | CF, 7.5k ohm |
| RX89   | 24360153       | CF, 15k ohm  |

| LOCATION<br>NUMBER                                 | PART<br>NUMBER | DESCRIPTION                     |
|--|----------------|---------------------------------|
| <b>COILS AND TRANSFORMERS</b>                      |                |                                 |
| <b>U001 PIF. SELECTOR POWER 2 PW UNIT 70194010</b> |                |                                 |
| L001   | 23262951       | Coil, RF Choke, TRF1019         |
| L002   | 23261985       | Coil, RF Choke, TRF9221         |
| L003   | 23262856       | Coil, TRF1452, PIF              |
| L004   | 23262853       | Coil, TRF1454, PIF              |
| L005   | 23262852       | Coil, TRF1455, AFT              |
| L006   | 23283150       | Coil, Peaking, TRF4150JG        |
| L007   | 23283470       | Coil, Peaking, TRF4470JG        |
| L008   | 23283120       | Coil, Peaking, TRF4120JG        |
| L009   | 70256001       | Coil, LCA01, SIF, 5.5MHz        |
| <b>U201 VIDEO &amp; AUDIO PW UNIT 70191943</b>     |                |                                 |
| L101   | 23283479       | Coil, Peaking, TRF4479JG        |
| L102   | 23283221       | Coil, Peaking, TRF4221JG        |
| L103   | 23283829       | Coil, Peaking, TRF4829JG        |
| L104   | 70215829       | Coil, Peaking, 829J             |
| L105   | 23283121       | Coil, Peaking, TRF4121JG        |
| L106   | 23283102       | Coil, Peaking, TRF4102JG        |
| L107   | 23283100       | Coil, Peaking, TRF4100JG        |
| L108   | 23283470       | Coil, Peaking, TRF4470JG        |
| L109, L110   | 23283109       | Coil, Peaking, TRF4109JG        |
| L201   | 23283829       | Coil, Peaking, TRF4829JG        |
| L202, L203   | 23283151       | Coil, Peaking, TRF4151JG        |
| L204   | 23283330       | Coil, Peaking, TRF4330JG        |
| L205, L206   | 23283820       | Coil, Peaking, TRF4820JG        |
| L207   | 23283330       | Coil, Peaking, TRF4330JG        |
| L208   | 23283180       | Coil, Peaking, TRF4180JG        |
| L209   | 23283151       | Coil, Peaking, TRF4151JG        |
| L210   | 23283829       | Coil, Peaking, TRF4829JG        |
| L211   | 23283560       | Coil, Peaking, TRF4560JG        |
| L301   | 23283472       | Coil, Peaking, TRF4472JG        |
| L401   | 23283680       | Coil, Peaking, TRF4680JG        |
| L402   | 23283241       | Coil, Peaking, TRF4241JG        |
| L403   | 23283829       | Coil, Peaking, TRF4829JG        |
| L404, L405   | 23283121       | Coil, Peaking, TRF4121JG        |
| L406   | 23283330       | Coil, Peaking, TRF4330JG        |
| L407   | 23283479       | Coil, Peaking, TRF4479JG        |
| L408   | 23283181       | Coil, Peaking, TRF4181JG        |
| L409   | 23283151       | Coil, Peaking, TRF4151JG        |
| L410   | 23283390       | Coil, Peaking, TRF4390JG        |
| L451, L452   | 70252034       | Coil, Comb, Filter, Adjust, TR  |
| <b>U501 SERVO &amp; LOGIC PW UNIT 70191985</b>     |                |                                 |
| L501   | 70212030       | Coil, LGA01                     |
| <b>U201 VIDEO &amp; AUDIO PW UNIT 70191943</b>     |                |                                 |
| L701   | 23283391       | Coil, Peaking, TRF 4391JG       |
| T201   | 70252033       | Coil, TRV033                    |
| T701   | 70214002       | Oscillator, Transformer, 65 kHz |
| <b>U801 POWER 1 PW UNIT 70191945</b>               |                |                                 |
| T801   | 23211997       | Line Filter, TRF3004C           |

| LOCATION<br>NUMBER                                 | PART<br>NUMBER | DESCRIPTION                    |
|--|----------------|--------------------------------|
| <b>UX02 REMOTE CONTROL SWITCH PW UNIT 70194011</b> |                |                                |
| LR61   | 70212032       | Coil, LAJ01, 37.9 kHz          |
| <b>TRANSISTORS</b>                                 |                |                                |
| <b>U001 PIF. SELECTOR POWER 2 PW UNIT 70194010</b> |                |                                |
| Q001   | A6708871       | Transistor, 2SC388ATM FA       |
| Q003   | A6048371       | FET Transistor,<br>2SK30ATM-GR |
| Q004   | A6534430       | Transistor, 2SA1048-Y          |
| Q006   | A6332430       | Transistor, 2SC2458-Y          |
| Q007   | A6534045       | Transistor, 2SA1015-Y FA       |
| Q008   | A6534430       | Transistor, 2SA1048-Y          |
| Q009   | A6332430       | Transistor, 2SC2458-Y          |
| Q010   | A6534045       | Transistor, 2SA1015-Y FA       |
| <b>U201 VIDEO &amp; AUDIO PW UNIT 70191943</b>     |                |                                |
| Q103, Q104   | A6509141       | Transistor, 2SA562TM-Y FA      |
| Q105   | A6534430       | Transistor, 2SA1048-Y          |
| Q106   | A6342200       | Transistor, 2SC2878-A          |
| Q107   | A6332430       | Transistor, 2SC2458-Y          |
| Q108, Q109   | A6534430       | Transistor, 2SA1048-Y          |
| Q110, Q111   | A6332430       | Transistor, 2SC2458-Y          |
| Q112, Q113   |                |                                |
| Q204, Q205   | A6534430       | Transistor, 2SA1048-Y          |
| Q206, Q207   | A6332430       | Transistor, 2SC2458-Y          |
| Q208, Q209   | A6534430       | Transistor, 2SA1048-Y          |
| Q210   |                |                                |
| Q211, Q212   | A6332430       | Transistor, 2SC2458-Y          |
| Q213   |                |                                |
| Q214   | A6534430       | Transistor, 2SA1048-Y          |
| Q215, Q216   | A6332430       | Transistor, 2SC2458-Y          |
| Q217   |                |                                |
| Q218   | A6534430       | Transistor, 2SA1048-Y          |
| Q219, Q220   | A6332430       | Transistor, 2SC2458-Y          |
| Q221   |                |                                |
| Q403, Q404   | A6332430       | Transistor, 2SC2458-Y          |
| Q405, Q406   |                |                                |
| Q407, Q408   |                |                                |
| Q409, Q410   |                |                                |
| Q411, Q412   |                |                                |
| <b>U501 SERVO &amp; LOGIC PW UNIT 70191985</b>     |                |                                |
| Q504, Q505   | A6332430       | Transistor, 2SC2458-Y          |
| Q508, Q509   |                |                                |
| Q510, Q511   |                |                                |
| Q512   | A6534430       | Transistor, 2SA1048-Y          |
| Q513   |                |                                |
| Q514, Q515   |                |                                |
| Q516, Q517   | A6332430       | Transistor, 2SC2458-Y          |
| Q518   |                |                                |
| Q519   | A6534430       | Transistor, 2SA1048-Y          |



| LOCATION<br>NUMBER                  | PART<br>NUMBER | DESCRIPTION               |
|-------------------------------------|----------------|---------------------------|
| Q520                                | A6332430       | Transistor, 2SC2458-Y     |
| Q522, Q523                          | A6534430       | Transistor, 2SA1048-Y     |
| Q524                                | A6332430       | Transistor, 2SC2458-Y     |
| Q525                                | A6844100       | Transistor, 2SD686        |
| Q526                                | A6325540       | Transistor, 2SC2236-Y     |
| Q527                                | A6332430       | Transistor, 2SC2458-Y     |
| Q528                                | A671666H       | Transistor, 2SC496-Y, X   |
| Q529                                | A6332430       | Transistor, 2SC2458-Y     |
| Q610, Q611                          | A6534430       | Transistor, 2SA1048-Y     |
| Q612                                | A6332430       | Transistor, 2SC2458-Y     |
| Q613                                | A6534430       | Transistor, 2SA1048-Y     |
| Q614, Q615                          | A6332430       | Transistor, 2SC2458-Y     |
| Q616                                | A6534430       | Transistor, 2SA1048-Y     |
| Q617, Q619                          | A6332430       | Transistor, 2SC2458-Y     |
| Q620, Q621                          |                |                           |
| Q622, Q623                          |                |                           |
| Q624, Q625                          |                |                           |
| Q626, Q627                          |                |                           |
| Q628, Q629                          |                |                           |
| Q630, Q631                          |                |                           |
| Q632, Q633                          |                |                           |
| Q635, Q636                          |                |                           |
| Q637                                |                |                           |
| Q641                                | A6533240       | Transistor, 2SA966-Y      |
| Q642, Q643                          | A6332430       | Transistor, 2SC2458-Y     |
| Q651, Q652                          | A6533240       | Transistor, 2SA966-Y      |
| Q653, Q654                          |                |                           |
| Q655, Q656                          |                |                           |
| Q657, Q658                          |                |                           |
| Q661, Q662                          |                |                           |
| Q663, Q664                          |                |                           |
| Q670                                | A6325540       | Transistor, 2SC2236-Y     |
| Q671, Q672                          | A6841900       | Transistor, 2SD549        |
| Q673, Q675                          | A6332430       | Transistor, 2SC2458-Y     |
| Q677, Q678                          |                |                           |
| Q679                                | A6534430       | Transistor, 2SA1048-Y     |
| U201 VIDEO & AUDIO PW UNIT 70191943 |                |                           |
| Q703                                | A6332430       | Transistor, 2SC2458-Y     |
| Q704, Q705                          | A6325825       | Transistor, 2SC2240-GR    |
| Q706                                | A6533625       | Transistor, 2SA970-GR     |
| Q707                                | A6319302       | Transistor, 2SC1959-Y, FA |
| Q708, Q709                          | A6332430       | Transistor, 2SC2458-Y     |
| Q710                                |                |                           |
| U801 POWER 1 PW UNIT 70191945       |                |                           |
| Q802                                | A6848520       | Transistor, 2SD880-Y      |
| Q803, Q804                          | A6317547       | Transistor, 2SC1815-Y, FA |
| Q805                                | A6848520       | Transistor, 2SD880-Y      |
| Q806, Q807                          | A6533625       | Transistor, 2SA970-GR     |
| Q808                                | A6314446       | Transistor, 2SC1627-Y FA  |
| Q809                                | A6533240       | Transistor, 2SA966-Y      |
| Q810                                | A6317547       | Transistor, 2SC1815-Y, FA |

| LOCATION<br>NUMBER                          | PART<br>NUMBER | DESCRIPTION               |
|---|----------------|---------------------------|
| U001 PIF. SELECTOR POWER 2 PW UNIT 70194010 |                |                           |
| Q861  | A6841475       | Transistor, 2SD525-Y Z    |
| QA02  | A6332430       | Transistor, 2SC2458-Y     |
| QA03, Q04                                   | A6534430       | Transistor, 2SA1048-Y     |
| QA05  |                |                           |
| QA06, QA07                                  | A6332430       | Transistor, 2SC2458-Y     |
| QA08  |                |                           |
| QA09  | A6317547       | Transistor, 2SC1815-Y, FA |
| QA10  | A6332430       | Transistor, 2SC2458-Y     |
| UX01 TIMER & LOGIC CONTROL PW UNIT 70191986 |                |                           |
| QA81, QA82                                  | A6332430       | Transistor, 2SC2458-Y     |
| QL01, QL02                                  | A6534430       | Transistor, 2SA1048-Y     |
| UX02 REMOTE CONTROL SWITCH PW UNIT 70194011 |                |                           |
| QL11  | A6332430       | Transistor, 2SC2458-Y     |
| UX01 TIMER & LOGIC CONTROL PW UNIT 70191986 |                |                           |
| QR01  | A6332430       | Transistor, 2SC2458-Y     |
| QR02  | A6041880       | FET, 2SK117-BL            |
| QR03  | A6332430       | Transistor, 2SC2458-Y     |
| UX02 REMOTE CONTROL SWITCH PW UNIT 70194011 |                |                           |
| QR62, QR63                                  | A6332430       | Transistor, 2SC2458-Y     |
| QR64, QR65                                  |                |                           |
| QR66, QR67                                  |                |                           |
| QR68  |                |                           |
|   |                |                           |
| UX01 TIMER & LOGIC CONTROL PW UNIT 70191986 |                |                           |
| QX02  | A6332430       | Transistor, 2SC2458-Y     |
| UX02 REMOTE CONTROL SWITCH PW UNIT 70194011 |                |                           |
| QX81  | A6317547       | Transistor, 2SC1815-Y, FA |
| QX82, QX83                                  | A6332430       | Transistor, 2SC2458-Y     |
| QX84  |                |                           |

| DIODE                                       |          |               |
|---|----------|---------------|
| U001 PIF. SELECTOR POWER 2 PW UNIT 70194010 |          |               |
| D001  | A7246711 | Diode, 1S1555 |
| U201 VIDEO & AUDIO PW UNIT 70191943         |          |               |
| D101, D102                                  | A7160570 | Diode, 1SS176 |
| D103, D201                                  |          |               |
| D202, D203                                  |          |               |
| D204, D205                                  |          |               |
| D206, D207                                  |          |               |
| D208, D401                                  |          |               |
|   |          |               |
|   |          |               |

| LOCATION<br>NUMBER                          | PART<br>NUMBER | DESCRIPTION           |
|---|----------------|-----------------------|
| U501 SEERVO & LOGIC PW UNIT 70191985        |                |                       |
| D501, D502                                  | A7246711       | Diode, 1S1555         |
| D503, D504                                  |                |                       |
| D505, D506                                  |                |                       |
| D507, D508                                  |                |                       |
| D509, D510                                  |                |                       |
| D511, D512                                  |                |                       |
| D513, D514                                  |                |                       |
| D515, D516                                  |                |                       |
| D517, D518                                  | A7110261       | Zener Diode, 05Z9.1X  |
| D519  |                |                       |
| D520, D521                                  | A7246711       | Diode, 1S1555         |
| D522, D523                                  |                |                       |
| D524, D601                                  |                |                       |
| D602, D603                                  |                |                       |
| D604, D605                                  |                |                       |
| D606, D607                                  |                |                       |
| D608, D609                                  |                |                       |
| D610  | A7110018       | Zener, Diode, 05Z5.6Z |
| D612, D613                                  | A7246711       | Diode, 1S1555         |
| D614, D615                                  |                |                       |
| D616  | A7109364       | Zener Diode, 05Z3.6Z  |
| D617  |                |                       |
| D618, D619                                  | A7246711       | Diode, 1S1555         |
| D620, D621                                  |                |                       |
| D622, D623                                  |                |                       |
| D624, D627                                  |                |                       |
| D628  | A7110018       | Zener, Diode, 05Z5.6Z |
| D629  |                |                       |
| D630, D631                                  | A7246711       | Diode, 1S1555         |
| D633, D634                                  |                |                       |
| U201 VIDEO & AUDIO PW UNIT 70191943         |                |                       |
| D701, D702                                  | A7160570       | Diode, 1SS176         |
| D703, D704                                  |                |                       |
| U801 POWER PW 1 UNIT 70191945               |                |                       |
| D801, D802                                  | 70115177       | Diode, S3V10          |
| D803, D804                                  |                |                       |
| D801, D802                                  | 70115172       | Diode, 30DIFC         |
| D803, D804                                  |                |                       |
| D805  | A7160570       | Diode, 1SS176         |
| D806  | A7109242       | Zener Diode, 05Z2.4X  |
| D807  | A7160570       | Diode, 1SS176         |
| D808  | A7110360       | Zener Diode, 05Z11 Z  |
| D809  | A7160570       | Diode, 1SS176         |
| D810  | A7286107       | Zener Diode, 02Z6.2A  |
| D811  | A7160570       | Diode, 1SS176         |
| D813, D814                                  | A7568521       | Diode, 1S1885, FA     |
| D815, D816                                  |                |                       |
| D817  |                |                       |
| D818  | A7160570       | Diode, 1SS176         |
| U001 PIF. SELECTOR POWER 2 PW UNIT 70194010 |                |                       |
| D862  | A7275400       | Diode, 1S2462         |

| LOCATION<br>NUMBER   | PART<br>NUMBER | DESCRIPTION               |
|--|----------------|---------------------------|
| D863   | A7110664       | Zener Diode, 05Z24Y       |
| D864   | A7110664       | Zener Diode, 05Z24Y       |
| D866, D867   | A7110463       | Zener Diode, 05Z13Z       |
| D868   | A7110208       | Zener Diode, 05Z8.2Y      |
| DA01, DA02   | A7246653       | Diode, 1S1554             |
| DA03, DA04   |                |                           |
| DA05, DA06   |                |                           |
| DA07, DA08   |                |                           |
| DA09   | 23115922       | Zener Diode, $\mu$ PC574J |
| DA10   | A7246711       | Diode, 1S1555             |
| DA12, DA13   | A7246653       | Diode, 1S1554             |
| DA14, DA15   | A7246653       | Diode, 1S1554             |
| DA16, DA17   |                |                           |
| DA18, DA19   |                |                           |
| DA20, DA21   | A7246711       | Diode, 1S1555             |
| DA22   |                |                           |
| <b>UX01 TIMER &amp; LOGIC CONTROL PW UNIT<br/>70191986</b> |                |                           |
| DA81, DA82   | A8605679       | LED, TLG113A (FA)         |
| DA83, DA84   |                |                           |
| DA85, DA86   |                |                           |
| DA87, DA88   |                |                           |
| DA89, DA90   | A7160570       | Diode, 1SS176             |
| DA91, DA92   |                |                           |
| DA93, DA94   |                |                           |
| DA95, DA96   | A8605679       | LED, TLG113A (FA)         |
| DL02, DL04   |                |                           |
| DL05   | A8600607       | LED, TLR113               |
| DL07   | A8605679       | LED, TLG113A (FA)         |
| DL09   | A8600607       | LED, TLR113               |
| DL12   | A8600607       | LED, TLR113               |
| <b>UX02 REMOTE CONTROL SWITCH PW UNIT<br/>70194011</b>     |                |                           |
| DL21   | A7246711       | Diode, 1S1555             |
| DL22   | A7160570       | Diode, 1SS176             |
| <b>UX01 TIMER &amp; LOGIC CONTROL PW UNIT<br/>70191986</b> |                |                           |
| DR01   | 23115800       | Diode, PH302, Photo       |
| DR02   | A7160570       | Diode, 1SS176             |
| <b>UX02 REMOTE CONTROL SWITCH PW UNIT<br/>70194011</b>     |                |                           |
| DR62, DR63   | A7246711       | Diode, 1S1555             |
| DR64, DR65   |                |                           |
| <b>UX01 TIMER &amp; LOGIC CONTROL PW UNIT<br/>70191986</b> |                |                           |
| DX01, DX02   | A7160570       | Diode, 1SS176             |
| DX03, DX04   |                |                           |
| DX05, DX06   |                |                           |

| LOCATION<br>NUMBER   | PART<br>NUMBER | DESCRIPTION                              |
|--|----------------|--|
| DX08   | A7160570       | Diode, 1SS176                            |
| <b>UX02 REMOTE CONTROL SWITCH PW UNIT<br/>70194011</b>     |                |  |
| DX81   | A7110042       | Zener Diode, 05Z5.1Z                     |
| DX82   | A8605679       | LED, TLG113A (FA)                        |
| <b>INTEGRATED CIRCUITS</b>                                 |                |  |
| <b>U001 PIF. SELECTOR POWER 2 PW UNIT 70194010</b>         |                |  |
| IC002  | B0354710       | IC, TA7607AP                             |
| IC005  | B0325290       | IC, TA7337P                              |
| <b>U201 VIDEO &amp; AUDIO PW UNIT 70191943</b>             |                |  |
| IC101  | B0325300       | IC, TA7339P                              |
| IC102  | B0356720       | IC, TA7672P                              |
| IC201  | B0356940       | IC, TA7693P                              |
| IC202  | B0325420       | IC, TA7350P                              |
| IC301  | B0357700       | IC, TA7723P                              |
| IC401  | B0357730       | IC, TA7726P                              |
| IC402  | B0357690       | IC, TA7722P                              |
| <b>U501 SERVO &amp; LOGIC PW UNIT 70191985</b>             |                |  |
| IC501  | B0430810       | IC, TM4217P                              |
| IC502, IC503   | B0351500       | IC, TA75902P                             |
| IC601  | B0403539       | IC, TMP4320P-6205                        |
| IC602  | B0403513       | IC, TMP4320AN-6254                       |
| <b>U201 VIDEO &amp; AUDIO PW UNIT 70191943</b>             |                |  |
| IC701  | B0312560       | IC, TA7137P(Y-C)                         |
| IC702  | B0325080       | IC, TA7325P                              |
| <b>U801 POWER 1 PW UNIT 70191945</b>                       |                |  |
| IC811  | B0372540       | IC, TA78005AP                            |
| <b>U001 PIF. SELECTOR POWER 2 PW UNIT 70194010</b>         |                |  |
| ICA01  | 70119231       | IC, $\mu$ PC 1362C                       |
| <b>UX01 TIMER &amp; LOGIC CONTROL PW UNIT<br/>70191986</b> |                |  |
| ICX01  | B0405577       | IC, TCP4633BN-9919                       |
| <b>CIRCUIT BOARD ASSEMBLIES</b>                            |                |  |
| U001   | 70194010       | PC Board Assy, PIF Selector<br>& Power 2 |
| U201   | 70191943       | PC Board Assy, Video &<br>Audio          |
| U501   | 70191985       | PC Board Assy, Servo &<br>Logic          |
| U801   | 70191945       | PC Board Assy, Power 1                   |
| UX01   | 70191986       | PC Board Assy, Timer &<br>Logic Control  |

| LOCATION<br>NUMBER   | PART<br>NUMBER | DESCRIPTION                              |
|--|----------------|--|
| UX02   | 70194011       | PC Board Assy, REMOTE<br>CONTROL Switch  |
| <b>MISCELLANEOUS</b>   |                |  |
| <b>U001 PIF. SELECTOR POWER 2 PW UNIT 70194010</b>                                       |                |  |
| H001   | 70121029       | Tuner, TN-EG511AX1                       |
| $\Delta$ F861  | 23144163       | Fuse, 0.315AT                            |
| $\Delta$ F861A   | 23165102       | Holder, Fuse                             |
| S001   | 70145197       | Switch, 1C1P                             |
| Z001   | A5611110       | Filter, PIF, F1034                       |
| Z002   | 23107972       | Ceramic Video Trap, 5.5MHz               |
| Z003   | 23107947       | Ceramic Filter, 5.5MHz                   |
| <b>U201 VIDEO &amp; AUDIO PW UNIT 70191943</b>   |                |  |
| X101   | 70138011       | 1H Delay Line                            |
| X401   | 70138013       | 2H Delay Line                            |
| X402   | 23153979       | Crystal, 4.43MHz                         |
| X403   | 23250966       | 1H Delay Line, PAL/SECAM                 |
| Z201   | 70132076       | Filter, LC802B                           |
| Z202   | 70132077       | Delay Line, DL401E                       |
| Z203   | 70132023       | Filter, LC.660A                          |
| Z204   | 70132077       | Delay Line, DL401E                       |
| Z401   | 70132081       | Filter, LC854B                           |
| Z402   | 70153022       | Filter, Ceramic, 5.12 MHz                |
| Z403   | 70132080       | Filter, LC730F                           |
| Z701   | 70212019       | Coil, 65 kHz, Trap                       |
| <b>U501 SERVO &amp; LOGIC PW UNIT 70191985</b>   |                |  |
| X501   | 70153029       | Xtal, 2.986 MHz                          |
| Z601   | 70153031       | Ceramic Resonator, 455 kHz               |
| Z602   | 70427020       | Resistor Block, P7682M                   |
| Z603   | 24094863       | Capacitor Block, 0.01 $\mu$ F $\times$ 4 |
| Z604   | 70153040       | Ceramic Resonator, 500 kHz               |
| Z605   | 70427020       | Resistor Block, P-7682M                  |
| <b>U801 POWER 1 PW UNIT 70191945</b>   |                |  |
| $\Delta$ F801  | 23144125       | Fuse, 500 mA                             |
| $\Delta$ F801A   | 23165102       | Holder, Fuse                             |
| <b>UX01 TIMER &amp; LOGIC CONTROL PW UNIT<br/>70191986</b>                               |                |  |
| GX01   | 70113045       | FIP, Timer, FIP7JM10                     |
| GX01A  | 70843062       | Holder, FIP                              |
| SA81, SA82<br>SL02, SL03<br>SL04, SL05<br>SL07, SL09<br>SX02, SX03<br>SX04, SX05<br>SX06 | 70145200       | Tact Switch, KHH10902                    |
| ZX01   | 70153028       | Ceramic Resonator, 400 kHz               |
| ZX02   | 70427017       | Resistor Black, P-4 682M                 |

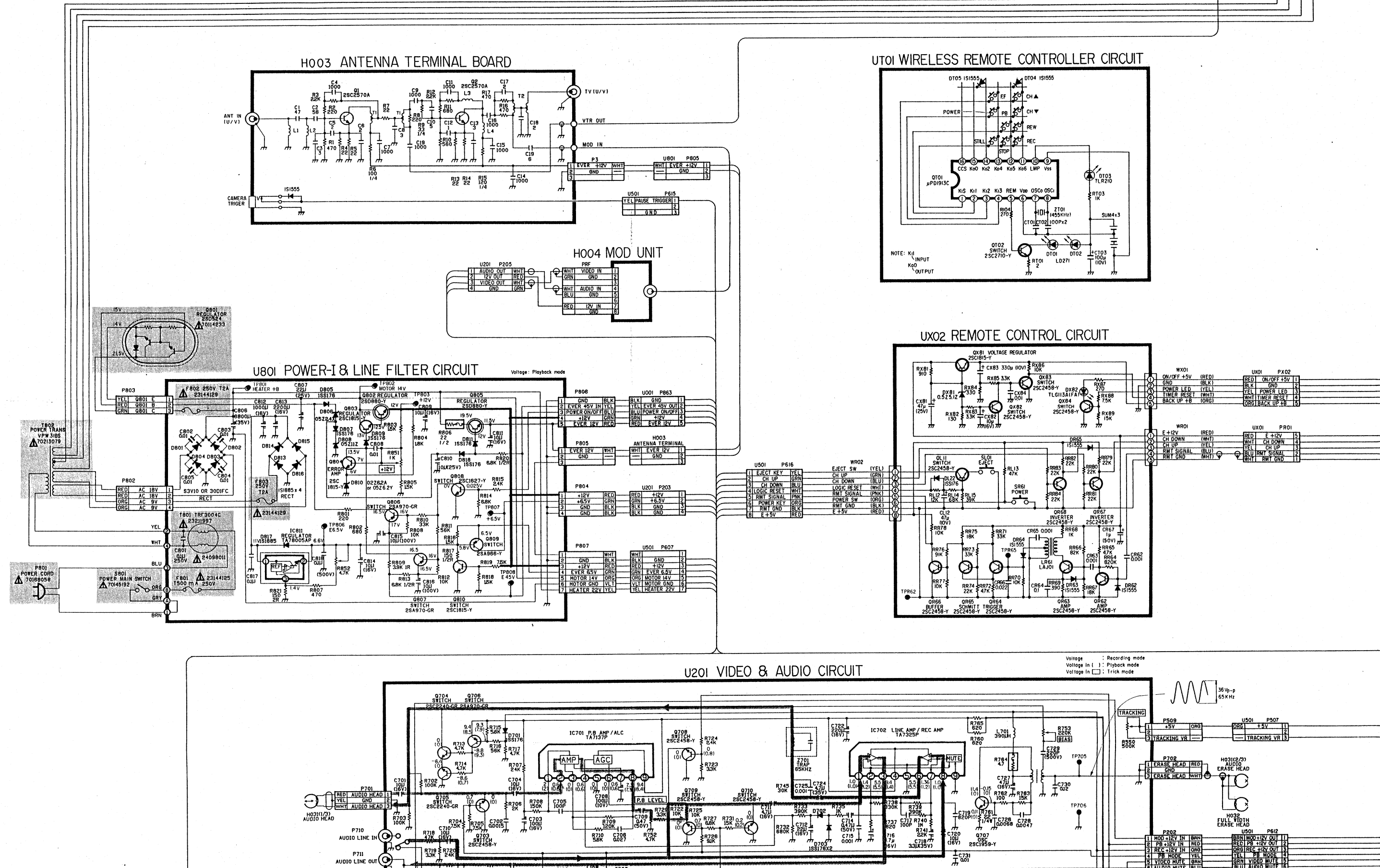
| LOCATION<br>NUMBER                                     | PART<br>NUMBER | DESCRIPTION                      |
|--|----------------|----------------------------------|
| <b>UX02 REMOTE CONTROL SWITCH PW UNIT<br/>70194011</b> |                |                                  |
| SL01, SR61   | 70145200       | Tact Switch, KHH10902            |
| <b>COMPONENTS NOT MOUNTED PC BOARD</b>                 |                |                                  |
| C661, C662<br>C663, C664                               | } 24094554     | CD, 1000pF                       |
| C671, C672   |                |                                  |
| H003   | 71591473       | PF, 0.047 $\mu$ F                |
| H004   | 70142054       | Antenna, VTU-VT615               |
| T802   | 70123053       | MOD-MD5636T                      |
| T802   | 70213083       | Transformer, VPW31S              |
| $\Delta$ P801  | 70168060       | Cord, 2P, 2.2 mm, 2.5A,<br>Power |
| $\Delta$ P801A   | 70846044       | Holder, Cord                     |
| Q801   | A6841305       | Transistor, 2SD524               |
| <b>REMOTE TRANSMITTER</b>                              |                |                                  |
| UT01   | 70191952       |                                  |
| <b>CAPACITORS</b>                                      |                |                                  |
| CT01, CT02   | 24212101       | CD, 100pF                        |

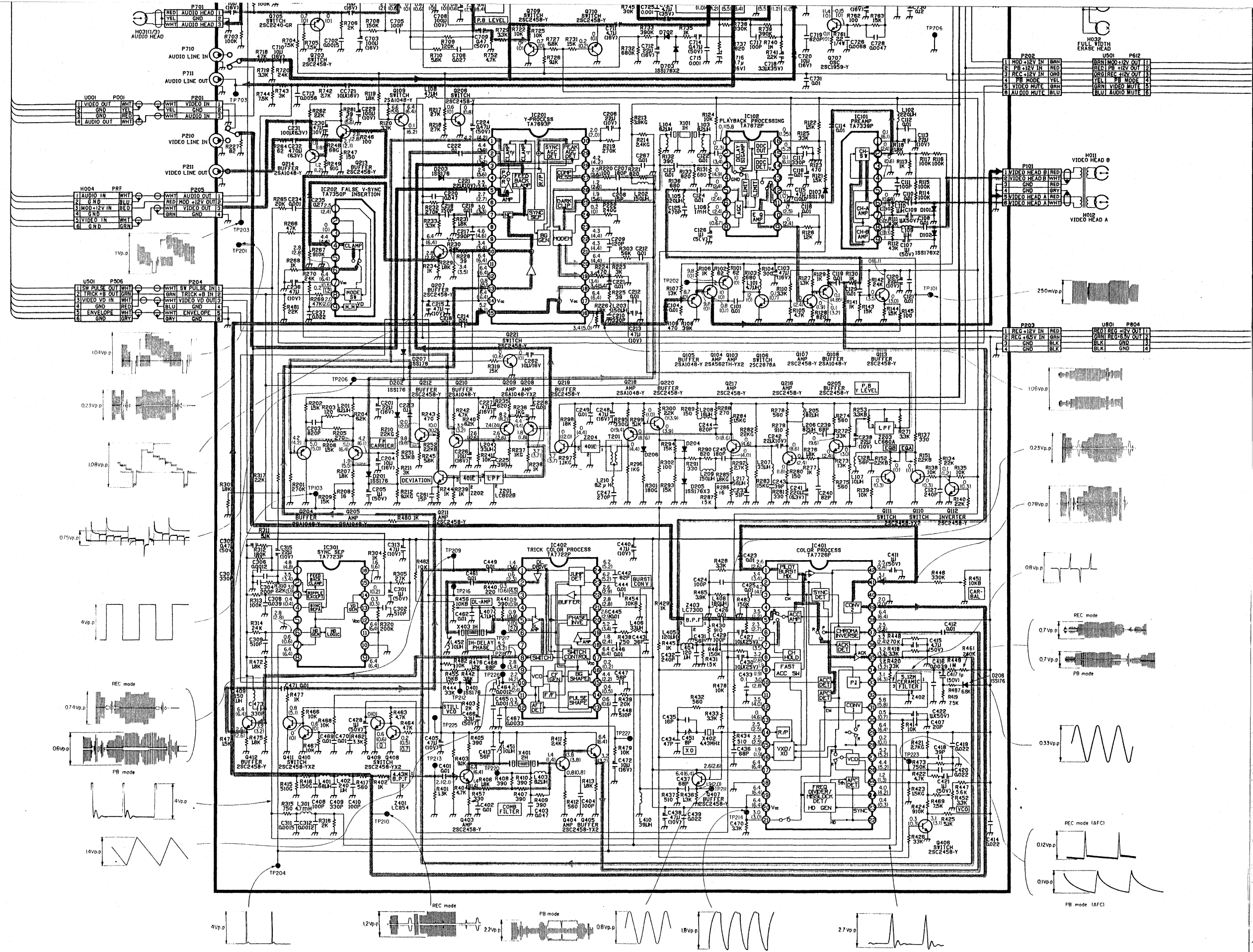
| LOCATION<br>NUMBER         | PART<br>NUMBER | DESCRIPTION           |
|----------------------------|----------------|-----------------------|
| CT03                       | 70430101       | EL, 100 $\mu$ F, 6.3V |
| <b>RESISTORS</b>           |                |                       |
| RT01                       | 24360209       | CF, 2 ohm             |
| RT03                       | 24360102       | CF, 1k ohm            |
| RT04                       | 24360270       | CF, 27 ohm            |
| <b>TRANSISTOR</b>          |                |                       |
| QT02                       | A6333720       | Transistor, 2SC2710-Y |
| <b>DIODES</b>              |                |                       |
| DT01, DT02                 | 23115871       | Diodes, LD-271        |
| DT03                       | A8603160       | LED, TLR210           |
| DT04, DT05                 | A7246711       | Diodes, 1S1555        |
| <b>INTEGRATED CIRCUITS</b> |                |                       |
| ICT01                      | 70119311       | IC $\mu$ PC-1913C     |
| <b>MISCELLANEOUS</b>       |                |                       |
| ZT01                       | 70156004       | RESONATOR, KBR-455BTL |

# TOSHIBA

## SCHEMATIC DIAGRAM OF V-33

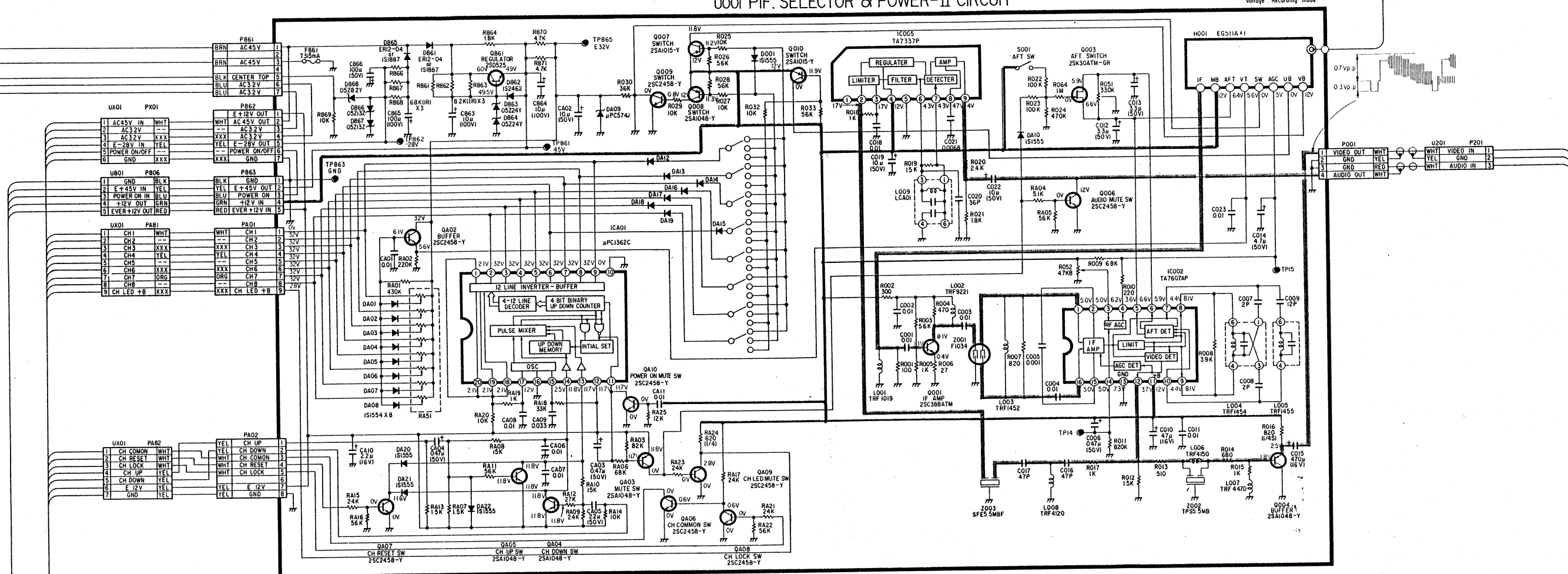
- +B
- Recording mode
- Playback mode
- Recording Y signal
- Playback Y signal
- Recording and playback mode



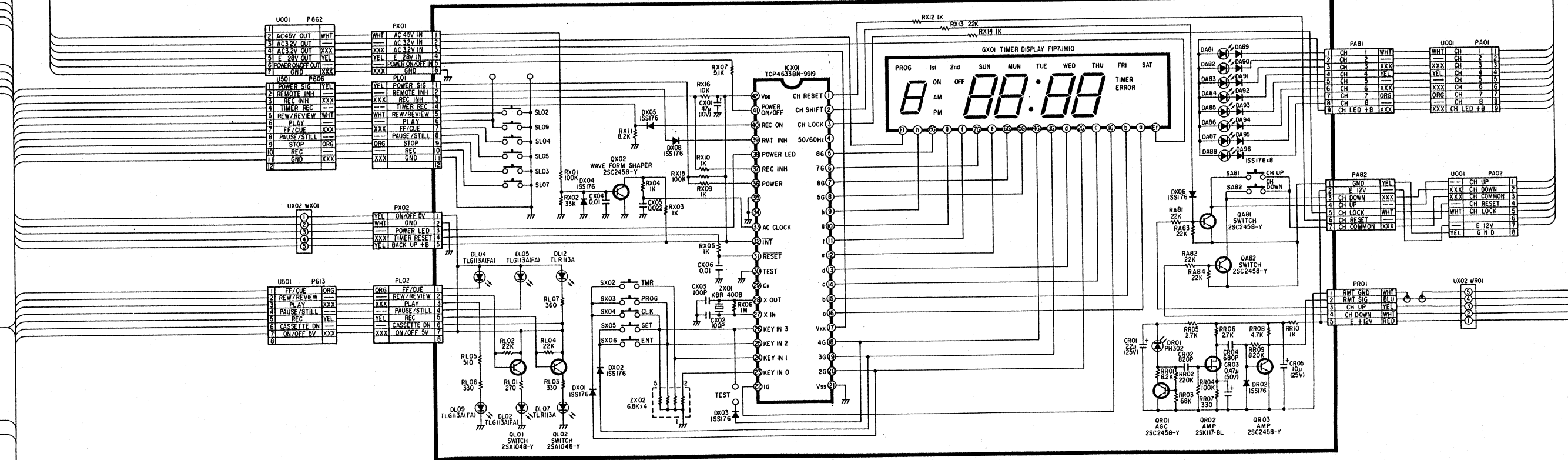




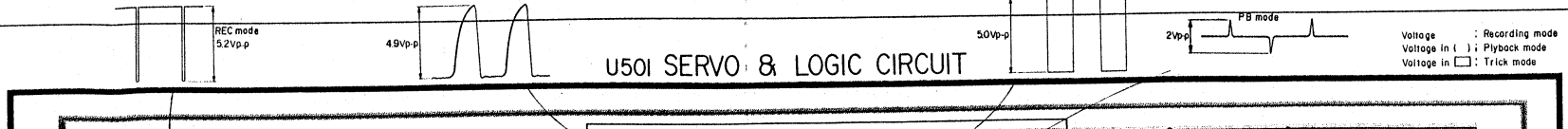
# U001 PIF. SELECTOR & POWER-II CIRCUIT

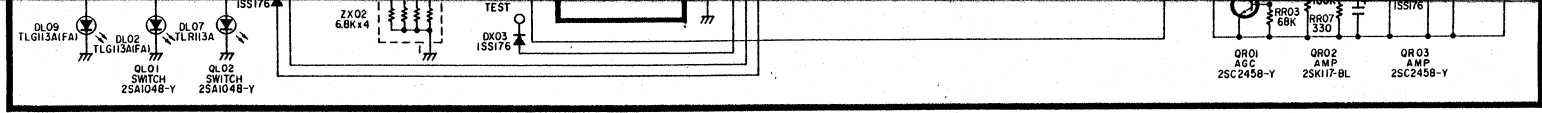


# UX01 TIMER & LOGIC CONTROL CIRCUIT

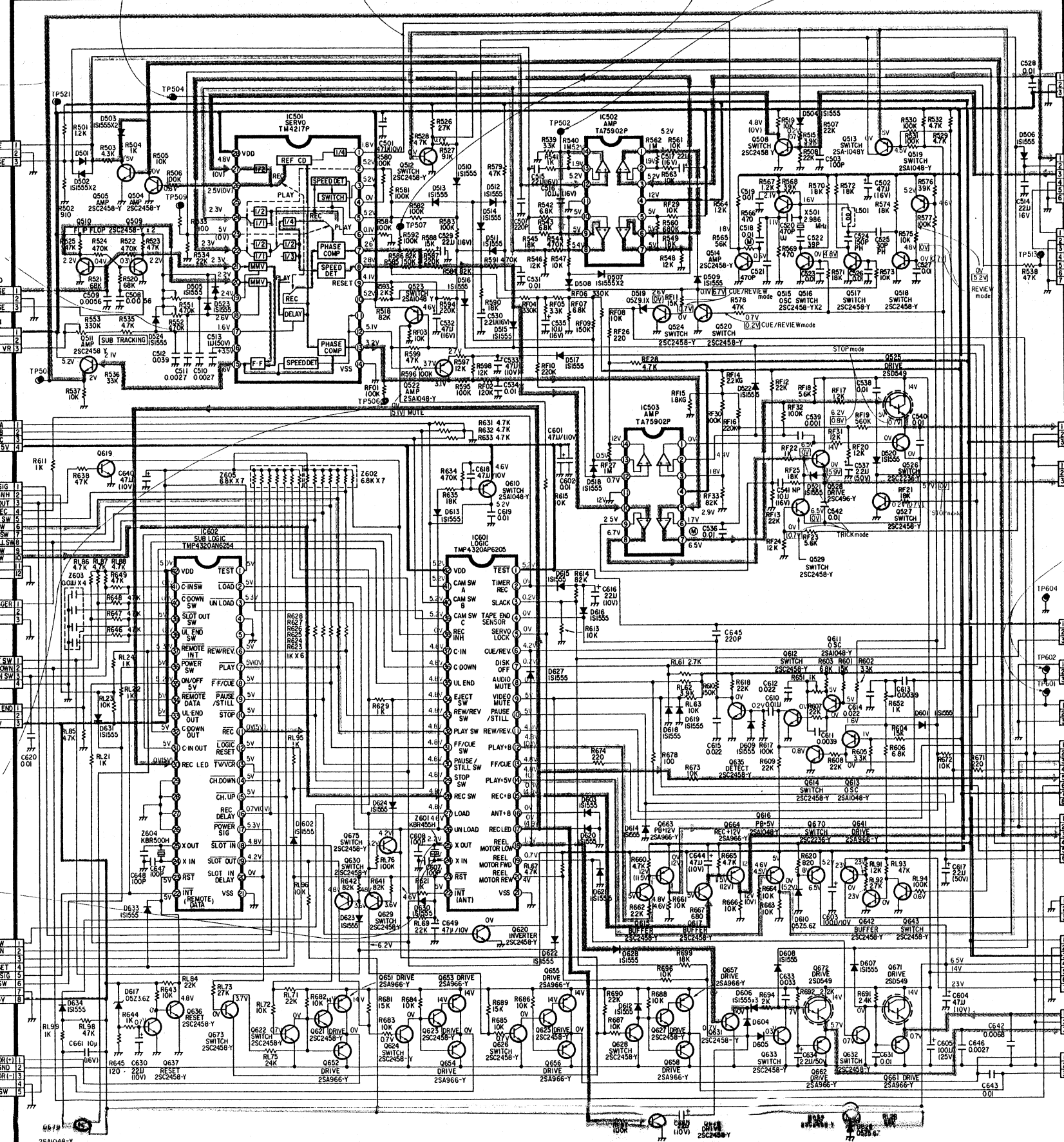


# U501 SERVO & LOGIC CIRCUIT

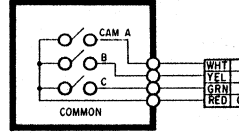




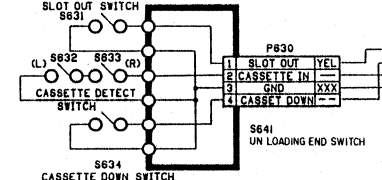
# U501 SERVO & LOGIC CIRCUIT



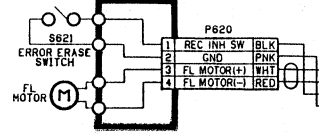
## U631 CAM SWITCH CIRCUIT



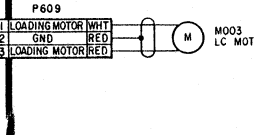
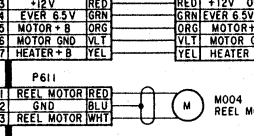
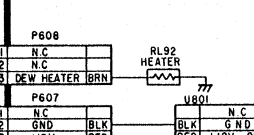
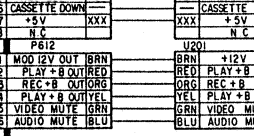
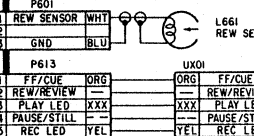
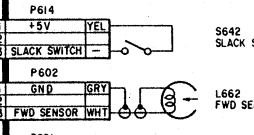
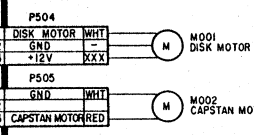
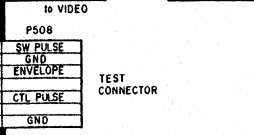
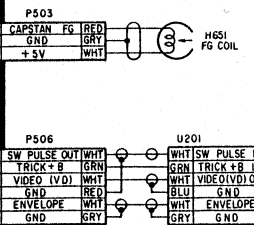
## U603 SWITCH RELAY CIRCUIT



## U602 MOTOR RELAY CIRCUIT



Volage : Recording mode  
Voltage in ( ) : Playback mode  
Voltage in [ ] : Trick mode

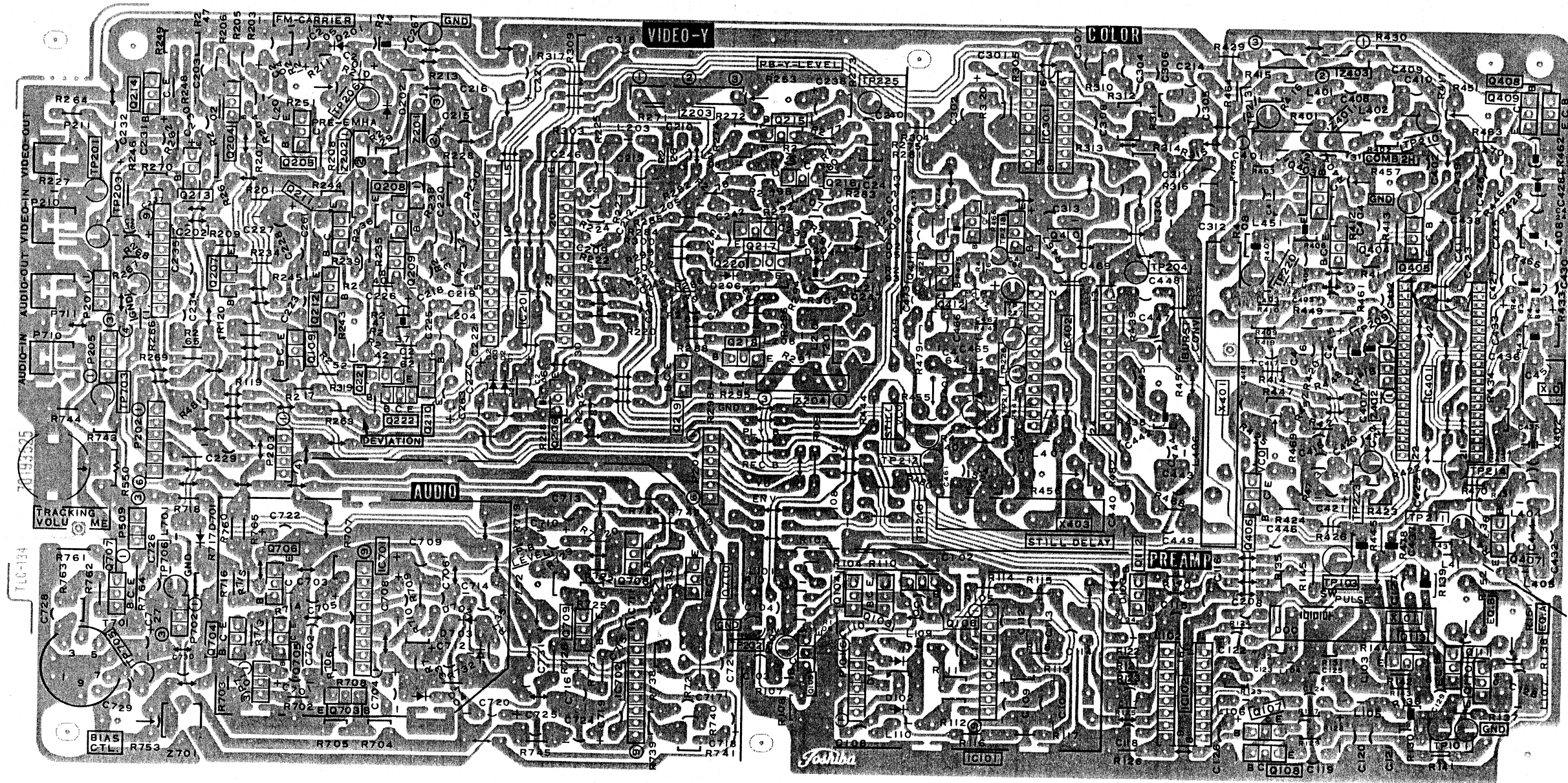




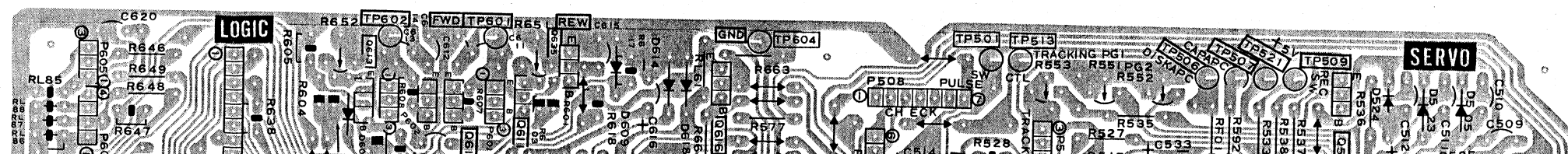
# TOSHIBA

## PRINTED WIRING BOARDS OF V-33

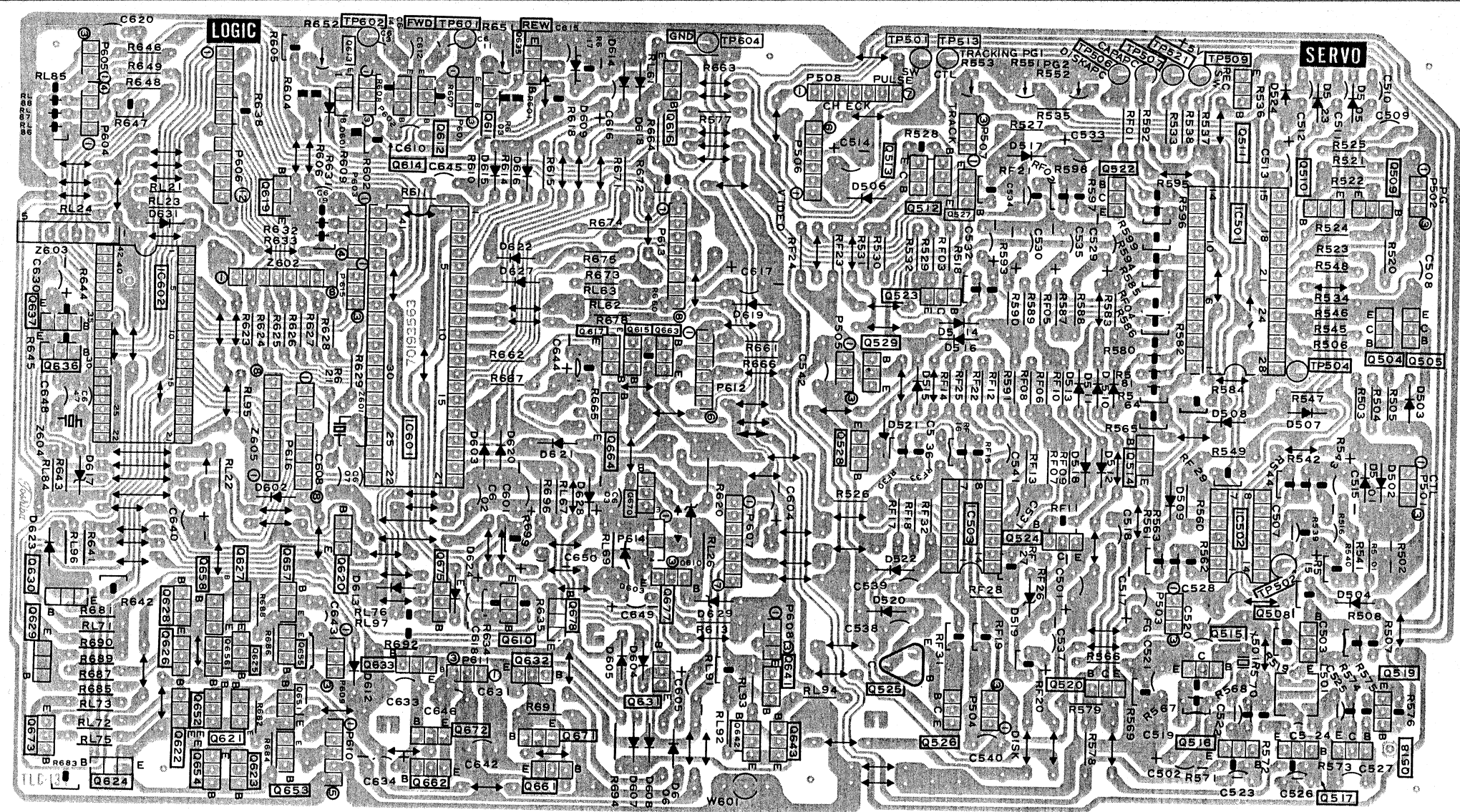
### U201 VIDEO & AUDIO



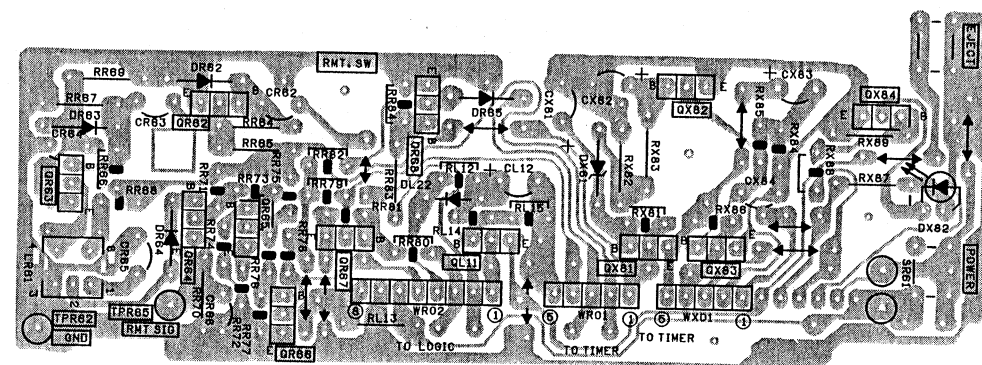
### U501 SERVO & LOGIC



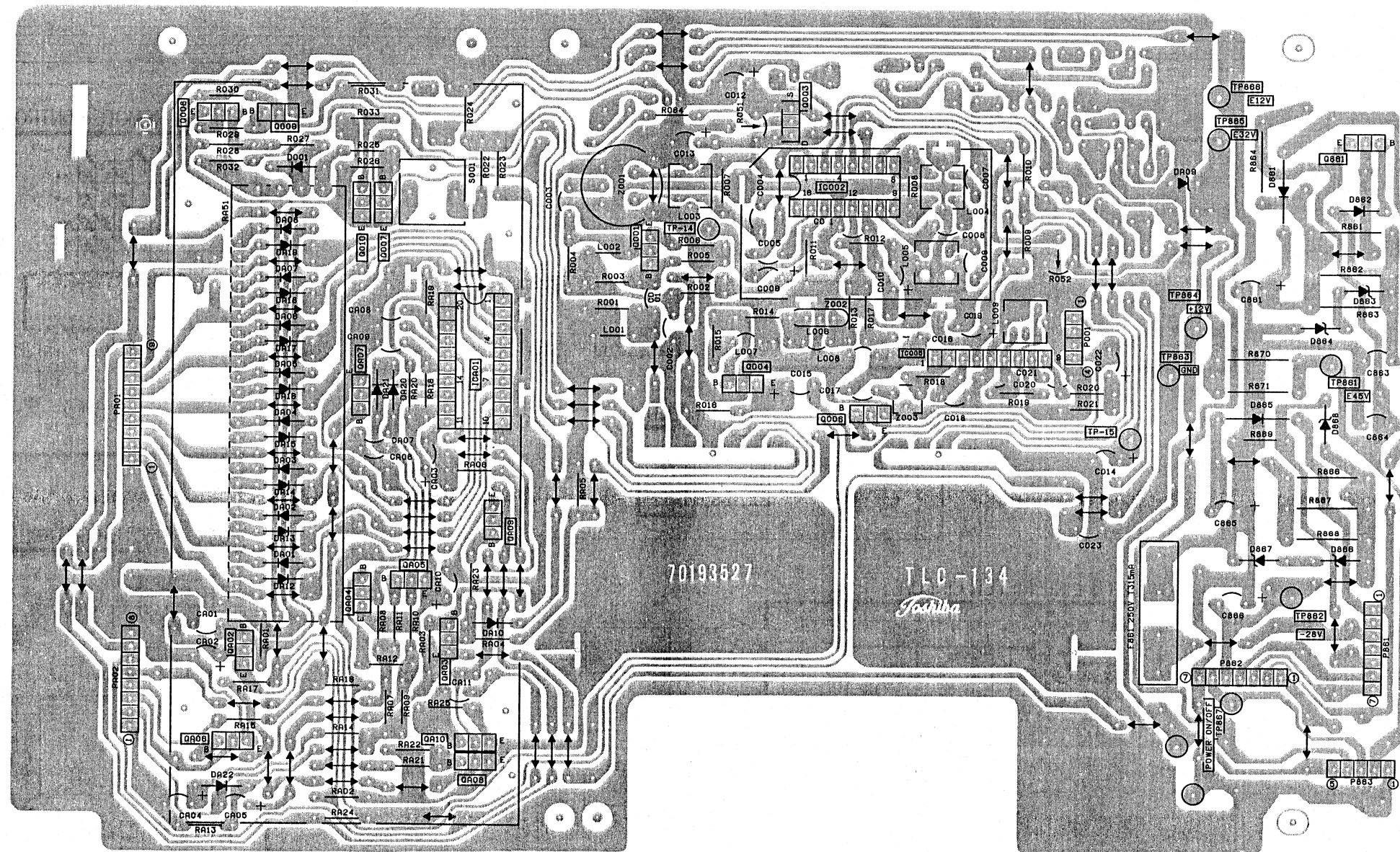




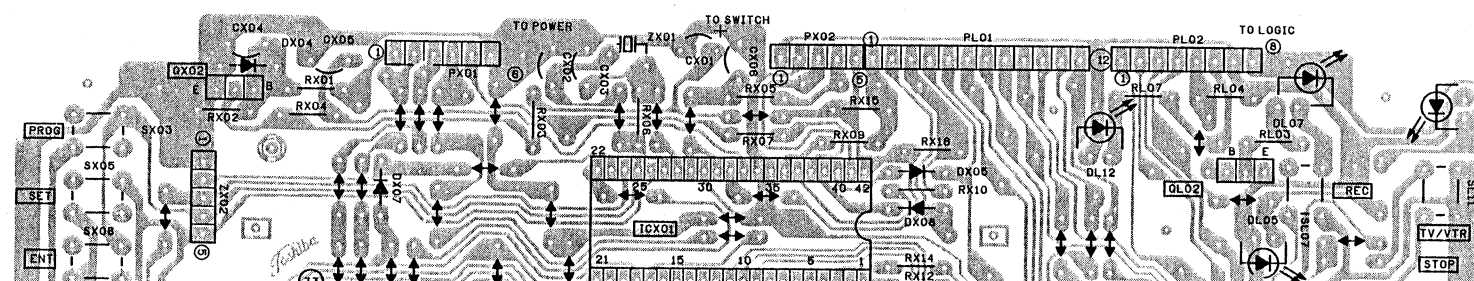
## UX02 REMOTE CONTROL



## U001 PIF • SELECTOR & POWER 2

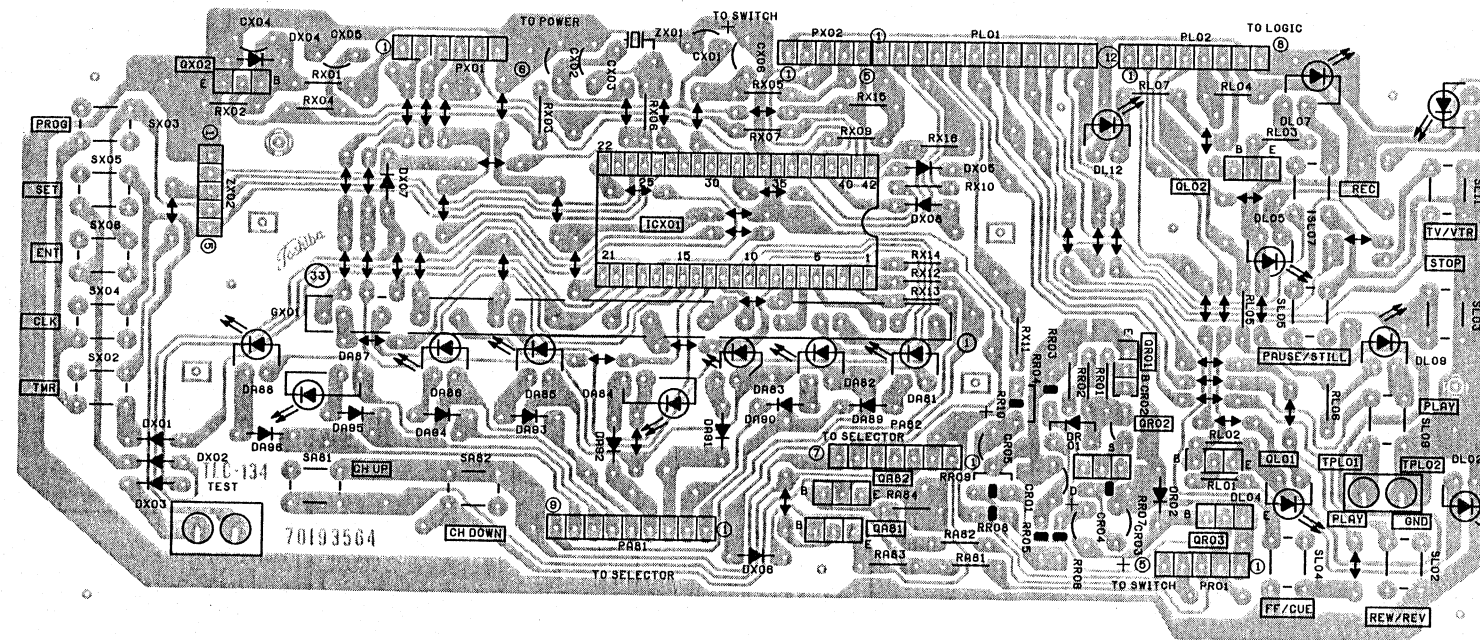


## UX01 TIMER & LOGIC CONTROL

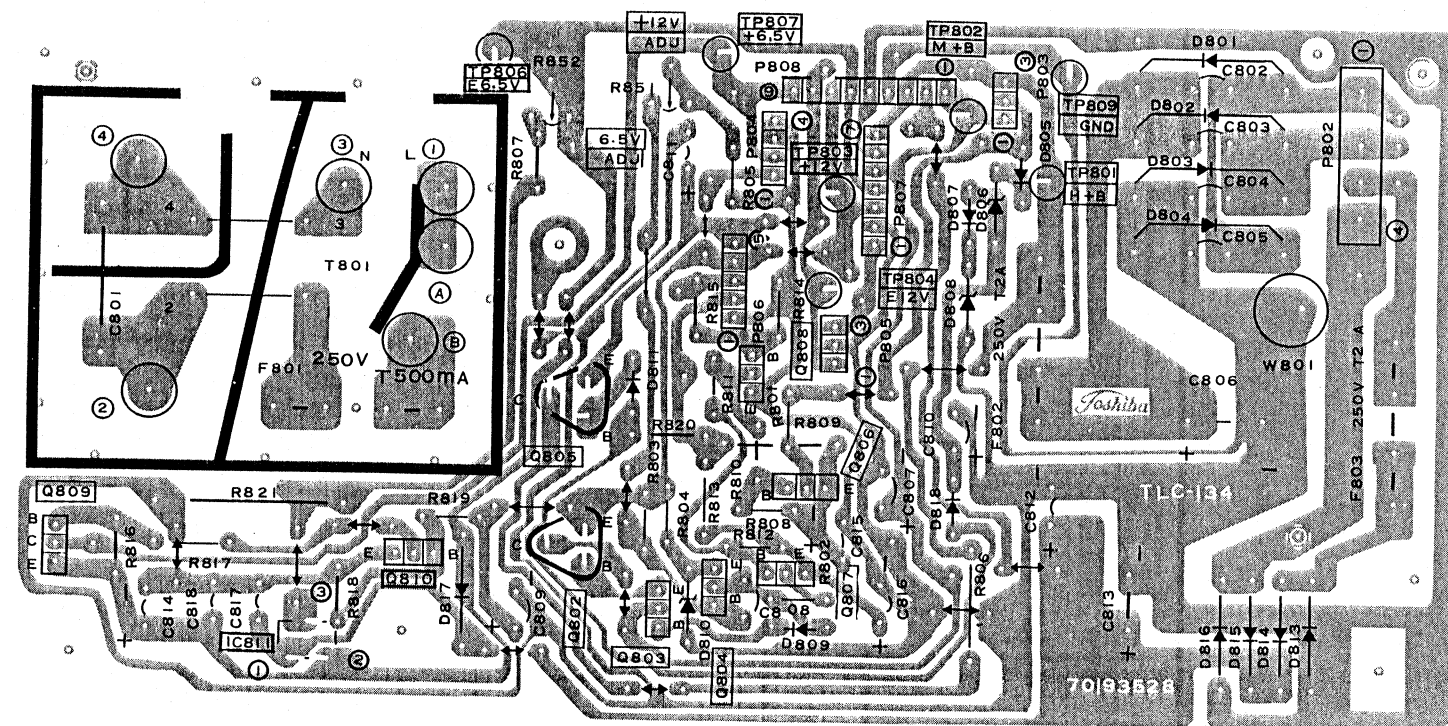




## UX01 TIMER & LOGIC CONTROL

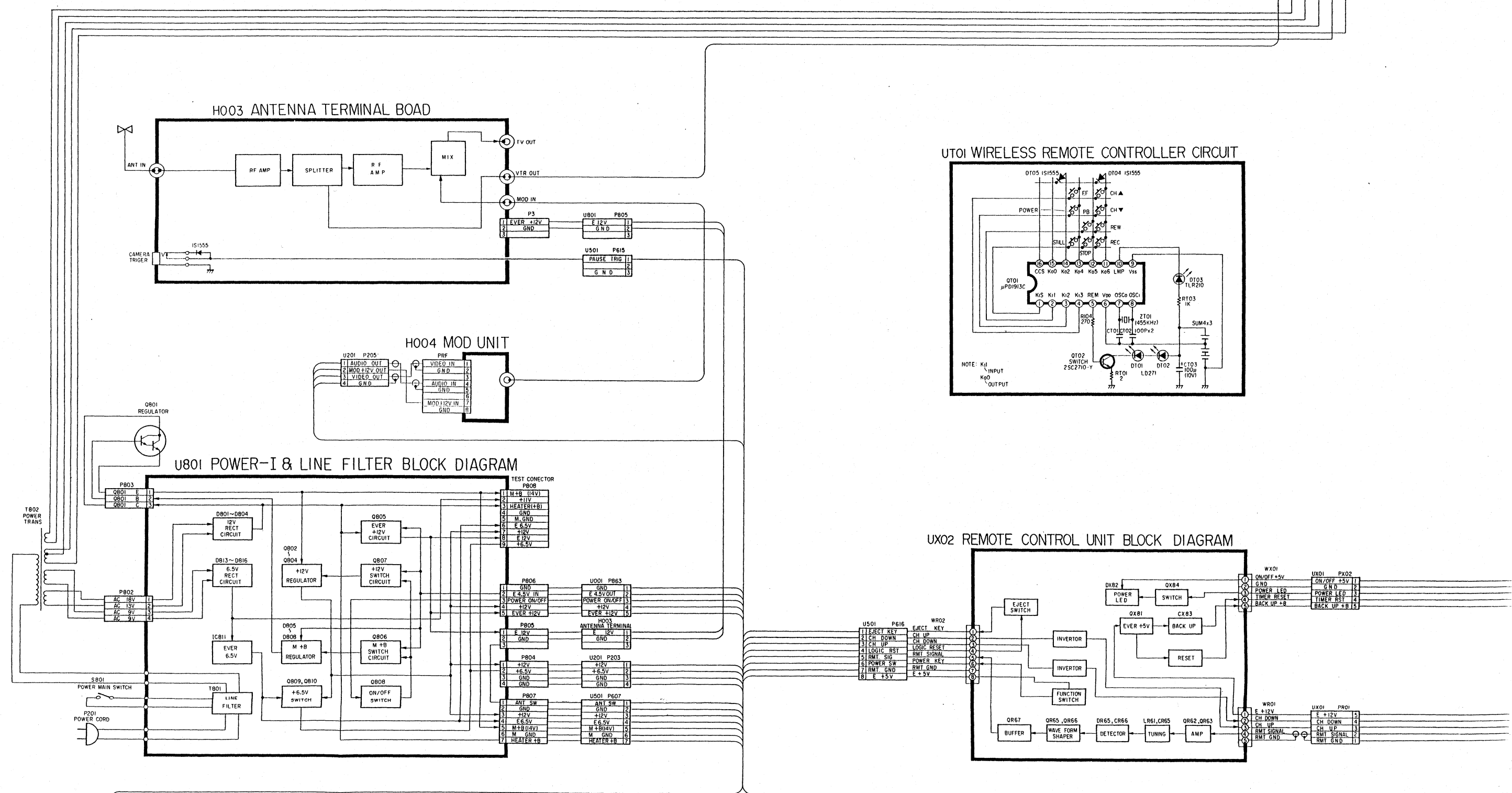


## U801 POWER 1

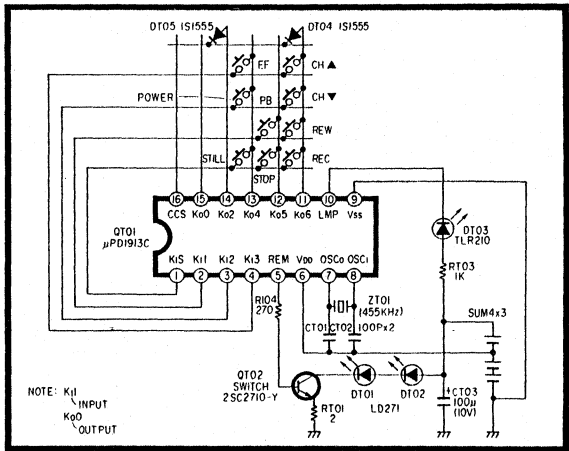


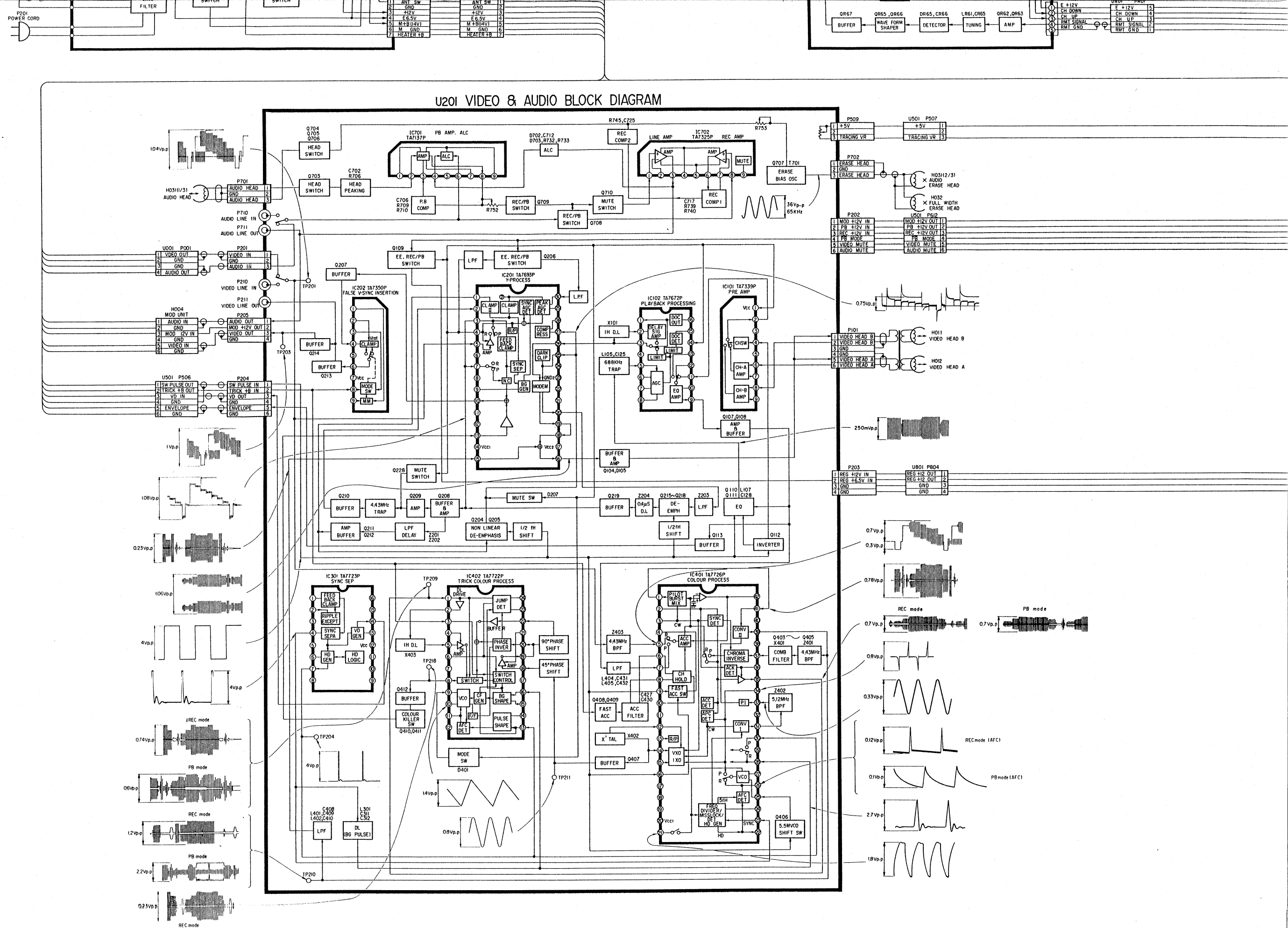
# TOSHIBA

## BLOCK DIAGRAM OF V-33



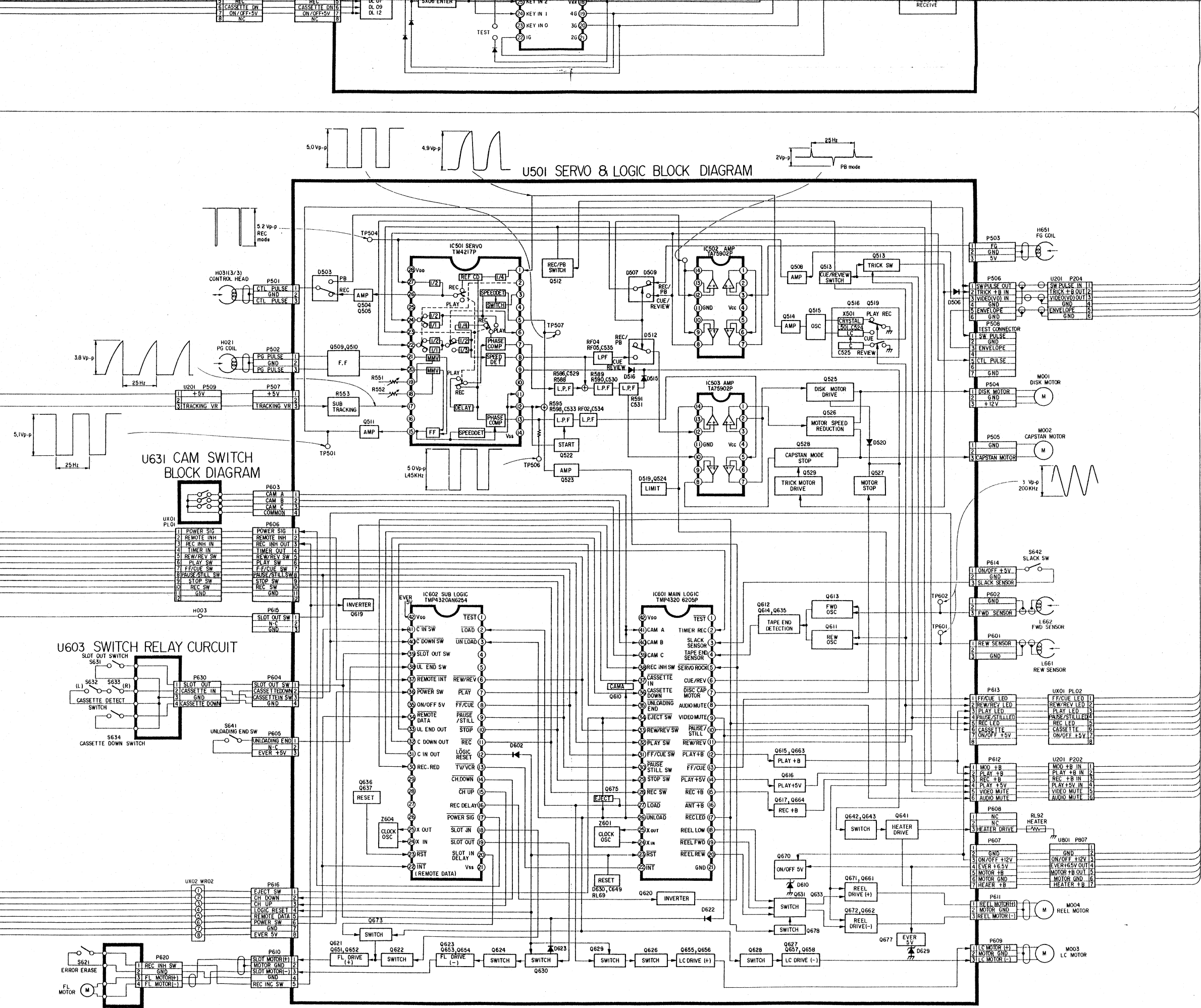
U501 WIRELESS REMOTE CONTROLLER CIRCUIT











U602 MOTOR RELAY CIRCUIT